ME

DEC 14 1992

John R. McKernan, Jr.
Governor

C. Edwin Meadows, Jr.
Commissioner

DEPARTMENT OF CONSERVATION

Insect & Disease Lab 50 Hospital St. Augusta, ME 04330-6598 Tel. 287-2431

December 10, 1992

James P. Linnane
Field Representative
Forest Health Protection
Forestry Sciences Laboratory
PO Box 640
Durham, NH 03824

Dear Jim:

Enclosed are copies of our Forest Health Worksheets for 1992 as requested. While we found that the new format basically met our changing perspective for assessment, the assignment of damage to forest type was not always clearcut. I trust, however, that you will find that the information enclosed will meet your needs.

Gypsy moth, hemlock looper, a complex of aspen leafroller/tiers and weather related injuries dominated much of our attention in 1992. This is not to say that other pest problems were insignificant. A few such as: balsam fir sawfly, satin moth and yellowheaded spruce sawfly made a striking appearance in the pest category for the first time in several years. Other pests such as: balsam twig aphid, birch leafminer, birch skeletonizer, browntail moth, fall webworm, white pine weevil and yellowheaded spruce sawfly also drew a good deal of comment and scrutiny. Some of the problems of the recent past such as: balsam gall midge, birch sawfly, jack pine sawfly, larch bark beetle, larch casebearer, maple leafroller, orangehumped mapleworm, pear thrips, spruce beetle, spruce budmoth, Stillwell's syndrome, and variable oakleaf caterpillar either stabilize or dropped to lower levels in 1992. Populations of a few pests such as Bruce spanworm, larch sawfly, oak leaftier and oak skeletonizer appear to be heading upward but were still relatively low and not serious in 1992. We have not forgotten other perennial problems such as: ash decline, balsam woolly adelgid, beech scale/Nectria, scleroderris canker, sirococcus shoot blight and white pine blister rust which continue to draw on our resources. We are also monitoring such things as the forest tent caterpillar and saddled prominent for possible increases over the next few years.

Quarantines changed little in 1992 except for a proposal for a slight increase in the European larch canker quarantine boundary in eastern Maine. The pinewood nematode which is present statewide is monitored as needed. The common pine shoot beetle and hemlock woolly adelgid have not yet been found in Maine.

I hope that this brief summary will fill in the blanks not covered by the worksheets while also providing an overview of Maine conditions for 1992. If you have further questions give me a call.

Sincerely,

Dave Struble RGD

David B. Struble
State Entomologist

:bab

ME

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN
Northern Hardwoods	2,625,800	No Damage

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT NONE

SCIENTIFIC NAME N/A

SPECIFIC TREE SPECIES AFFECTED Acer saccharum

AGE OF AFFECTED TREES (understory, pole, mature, regeneration)
Pole and mature surveyed

SURVEY METHOD NAMP protocol followed on 18 plots.

TREATMENT (if any) NONE

TREND (Past and Future) The maple appear healthy and are expected to remain so.

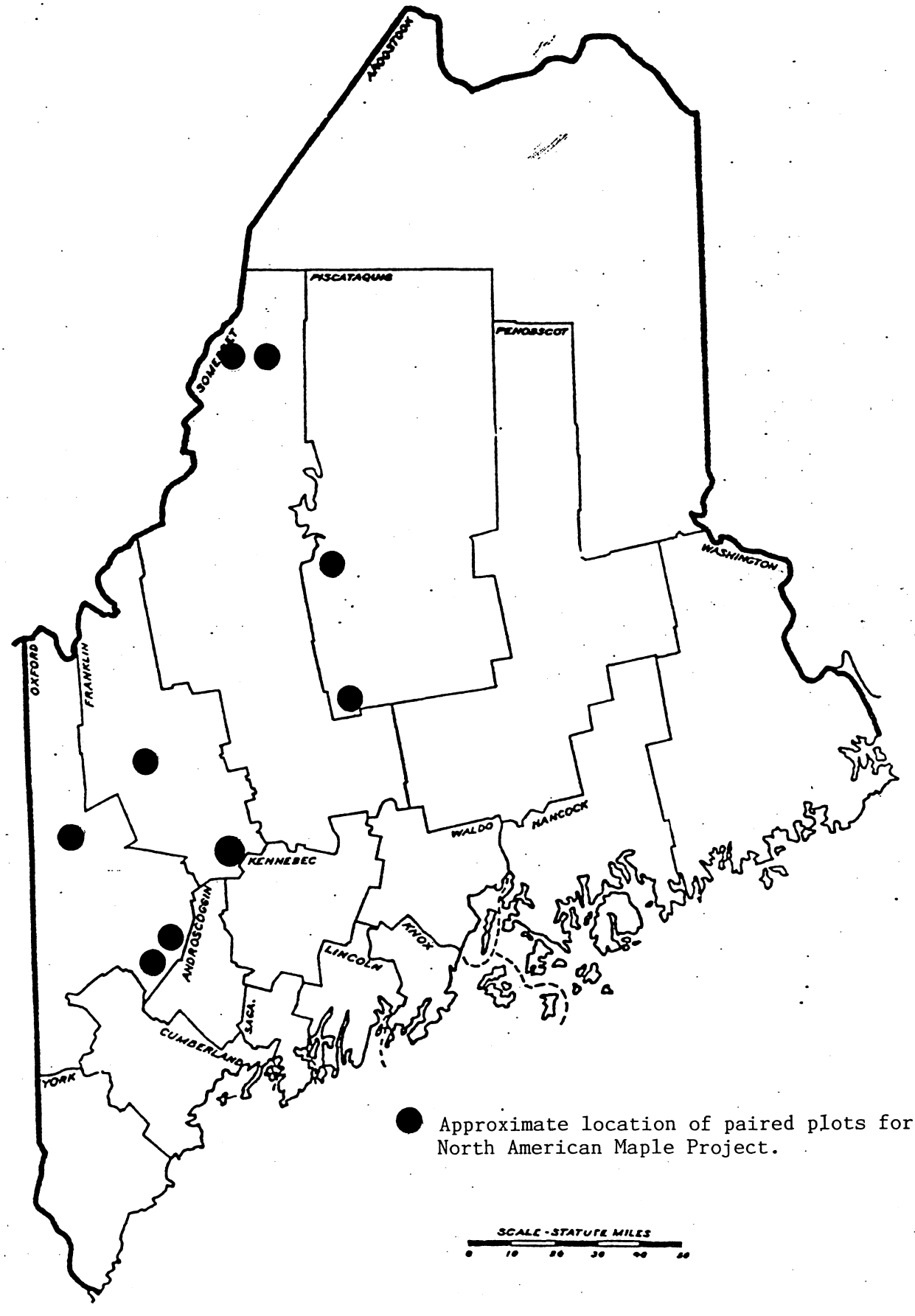
LOCATION MAP ENCLOSED XX TAPE ENCLOSED _____
STATEWIDE XX OR:
COUNTY _____ TOWNSHIP _____

(If needed, continue on reverse side)

COMMENTS

1992

MAINE



● Approximate location of paired plots for North American Maple Project.

MF

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
Aspen-Birch	250,000 acres ±	Mod.(50-75% lvs. rolled) to severe (75 -100%) defol. mixed throughout.

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Primarily Aspen Leafroller

SCIENTIFIC NAME Pseudexentera oregonana

SPECIFIC TREE SPECIES AFFECTED Populus spp.

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) All ages

SURVEY METHOD Point sampling and aerial

TREATMENT (if any) None

TREND (Past and future) Up noticeably from 1991 levels. Future trend unknown.

LOCATION **MAP ENCLOSED** _____ **TAPE ENCLOSED** _____

STATEWIDE _____ **OR:**

COUNTY	**TOWNSHIP**
Somerset	Northern sections. This area set off from others.
Penobscot	Northern areas adjacent to Aroostook county
Aroostook	Eastern third of the county.

(If needed, continue on reverse side)

COMMENTS The entire aspen resource in Maine seemed to support populations of one or more pests in 1992. The aspen leafroller and the large aspen tortrix (see special sheet) seemed to predominate.

ME

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
Spruce-Fir	25,000acres +	Scattered pockets of Heavy pops. throughout. Pockets of light pops elsewhere.

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Balsam Fir Sawfly

SCIENTIFIC NAME Neodiprion abietis

SPECIFIC TREE SPECIES AFFECTED Abies balsamea

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) All ages

SURVEY METHOD Point sampling

TREATMENT (if any) None

TREND (Past and future) Up in most areas. This insect has always been a component of the spruce-fir ecosystem but only this year became widely observed as pest . This may have been primarily due to the closer scrutiny which was given to some of these coastal stands. Populations are expected to remain stable or drop in 1993.

LOCATION **MAP ENCLOSED** _____ **TAPE ENCLOSED** _____

STATEWIDE _____ **OR:**

COUNTY	**TOWNSHIP**
Washington	Jonesport, Machiasport and Addison

(If needed, continue on reverse side)

COMMENTS Damage caused by this species is difficult to separate from that of other species such as the hemlock looper.

ME

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	**ACRES/AREA AFFECTED**	**SEVERITY/PATTERN (Define classes)**
Spruce / Fir	200,000 A	Light to moderate defoliation
Urban/ Ornamental	20,000 A.	Light to Moderate

*Forest Type Group - **White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.**

Other - **Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Arborvitae leafminer

SCIENTIFIC NAME Argyresthia thuiella; A. freyella ; A. aureoargentella; and Recurvaria thujaella.

SPECIFIC TREE SPECIES AFFECTED Northern White Cedar, Thuja occidentalis

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) All Ages

SURVEY METHOD Collection & dissection of 20 - 3" tips from each of 5 trees at each site. Identification and numbers of each species of larvae found are recorded.

TREATMENT (if any) None planned

TREND (Past and future) Populations vary upward & downward in different years. Situation will remain as in the past, variable.

LOCATION **MAP ENCLOSED** XXXX **TAPE ENCLOSED** _____

STATEWIDE _____ **OR:**

COUNTY _____ **TOWNSHIP** _____

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(If needed, continue on reverse side)

COMMENTS

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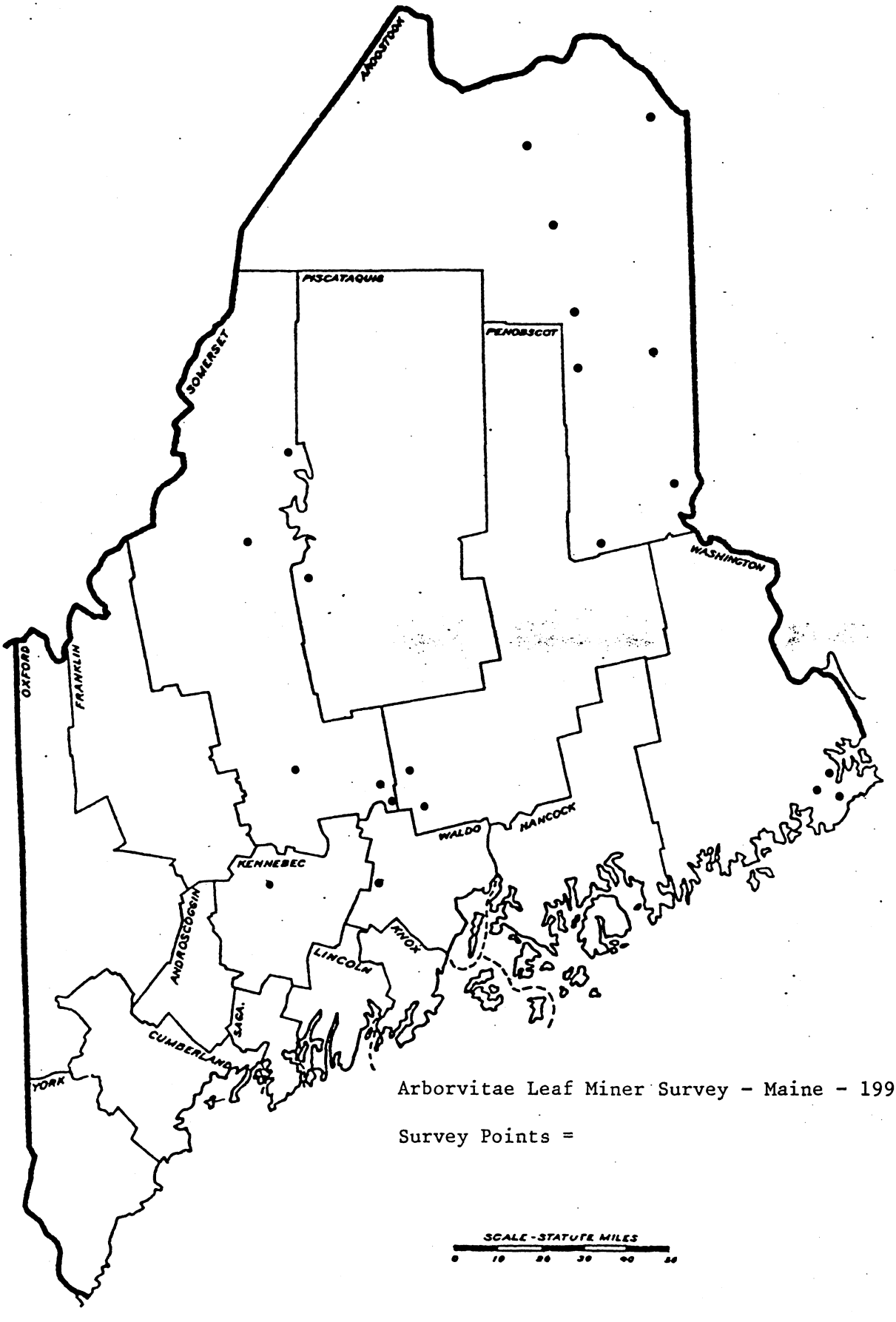

Arborvitae Leaf Miner Survey - Maine - 1992

Survey Points =

ME

1992 Arborvitae Leaf Miner Summary

Location	# of Live Larvae Per 3" Twig-1992	# of Live Larvae Per 3" Twig-1991	Increase Decrease
Palmyra	1.03	0.48	+0.55
Belgrade	0.30	1.06	-0.76
Plymouth/Dixmont	1.03	1.00	+0.03
Cornville	0.66	1.27	-0.61
Newport	0.30	0.20	+0.10
Freedom	0.39	0.48	-0.09
Detroit	3.83	2.18	+1.65
Whiting	0.36	1.07	-0.71
Trescott	1.08	1.65	-0.57
Edmunds	0.41	1.08	-0.67
Ludlow	0.13	1.05	-0.92
Moro	0.75	0.60	+0.15
Nashville	0.27	0.28	-0.01
Connor	0.23	0.37	-0.14
T9-R5	0.06	0.22	-0.16
Winterville	0.40	0.42	-0.02
Orient	0.42	0.61	-0.19
Macwahoc	0.11	0.40	-0.29
Little Squaw	0.12	0.44	-0.32
Seboomook	0.17	0.13	+0.04

ME

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN
Balsam fir plantation	1,000	No damage

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Balsam Gall Midge

SCIENTIFIC NAME Paradiplosis tumifex

SPECIFIC TREE SPECIES AFFECTED Abies balsamea

AGE OF AFFECTED TREES (understory, pole, mature, regeneration)
6-15 year

SURVEY METHOD Landowner reports and field checks

TREATMENT (if any) Not required in 1992.

TREND (Past and Future) Stable population below economic threshold

LOCATION MAP ENCLOSED _____ TAPE ENCLOSED _____
STATEWIDE XX OR:
COUNTY _____ TOWNSHIP _____

(If needed, continue on reverse side)

COMMENTS This cyclical pest is currently causing damage in only very localized plantations.

MB

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN
Balsam fir plantation	1,000	Heavy*
Spruce-Fir	5,000,000	Scattered pockets mod-hvy.

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Balsam Twig Aphid

SCIENTIFIC NAME Mindarus abietinus

SPECIFIC TREE SPECIES AFFECTED Abies balsamea

AGE OF AFFECTED TREES (understory, pole, mature, regeneration)

3-12 and understory

SURVEY METHOD Landowner and user group (Tippers) reports and field observation

TREATMENT (if any) Plantations treated with Lorsban or diazinon

TREND (Past and Future) Population has been increasing since 1989 and is expected to collapse in most areas.

LOCATION MAP ENCLOSED _____ TAPE ENCLOSED _____

STATEWIDE XX OR:

COUNTY _____ TOWNSHIP _____

(If needed, continue on reverse side)

COMMENTS This has been a serious economic pest on the wreath industry in Maine this year.

*Heavy - greater than 75% of current shoots distorted.

MR

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
Northern Hardwood & Aspen-Birch	Not defined	Light to moderate but very spotty or local throughout the resource.

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Birch Casebearer

SCIENTIFIC NAME Coleophora serratella

SPECIFIC TREE SPECIES AFFECTED Primarily Betula papyrifera and hybrids.

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) All ages.

SURVEY METHOD Point sampling

TREATMENT (if any) None

TREND (Past and future) Populations appeared to be up somewhat in Waldo,Hancock and Washington counties at least locally but overall were not much higher than in 1991. The trend has not been defined.

LOCATION **MAP ENCLOSED** _____ **TAPE ENCLOSED** _____

STATEWIDE XX OR:

COUNTY	TOWNSHIP

(If needed, continue on reverse side)

COMMENTS

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MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
Northern Hardwood & Aspen Birch	Est. 300,000acres ±	A wide mixture of defoliation levels. See comments below

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Birch Skeletonizer

SCIENTIFIC NAME Bucculatrix canadensisella

SPECIFIC TREE SPECIES AFFECTED Betula spp.

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) All ages

SURVEY METHOD Point sampling & aerial

TREATMENT (if any) None

TREND (Past and future) Up noticeably from already high 1991 levels. Future trend not known at this time.

LOCATION MAP ENCLOSED _____ TAPE ENCLOSED _____

STATEWIDE XX See also below.

COUNTY _____ TOWNSHIP _____

(If needed, continue on reverse side)

COMMENTS A wide variety of defoliation levels were seen but generally populations in SW Maine were light (< 1 larva/1f. av.); those elsewhere ranged from moderate (1-3 larvae/1f. av.) to heavy (>3 larvae/1f. av.). Due to foliage discoloration from other causes at the time larvae were feeding, aerial surveys were inconclusive.

ME

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
Northern Hardwood & Aspen-Birch	150,000 acres ±	Light - Mod. pops. (< 1mine/1f.av
	50,000 acres ±	Mod. -Heavy pops. (> 1 mine/1f.av

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Birch Leafminer

SCIENTIFIC NAME Messa nana

SPECIFIC TREE SPECIES AFFECTED Primarily Betula papyrifera and hybrids

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) All ages

SURVEY METHOD Point sampling

TREATMENT (if any) None

TREND (Past and future) This leafminer seems to have displaced other species as a problem on white birch over the past few years. Populations and damage appear to vary from year to year in any one stand but overall are holding at roughly 1990 and 1991 levels and are expected to continue at these levels for 1993.

LOCATION **MAP ENCLOSED** XX **TAPE ENCLOSED** _____

STATEWIDE _____ **OR:**

COUNTY	**TOWNSHIP**

(If needed, continue on reverse side)

COMMENTS

1992

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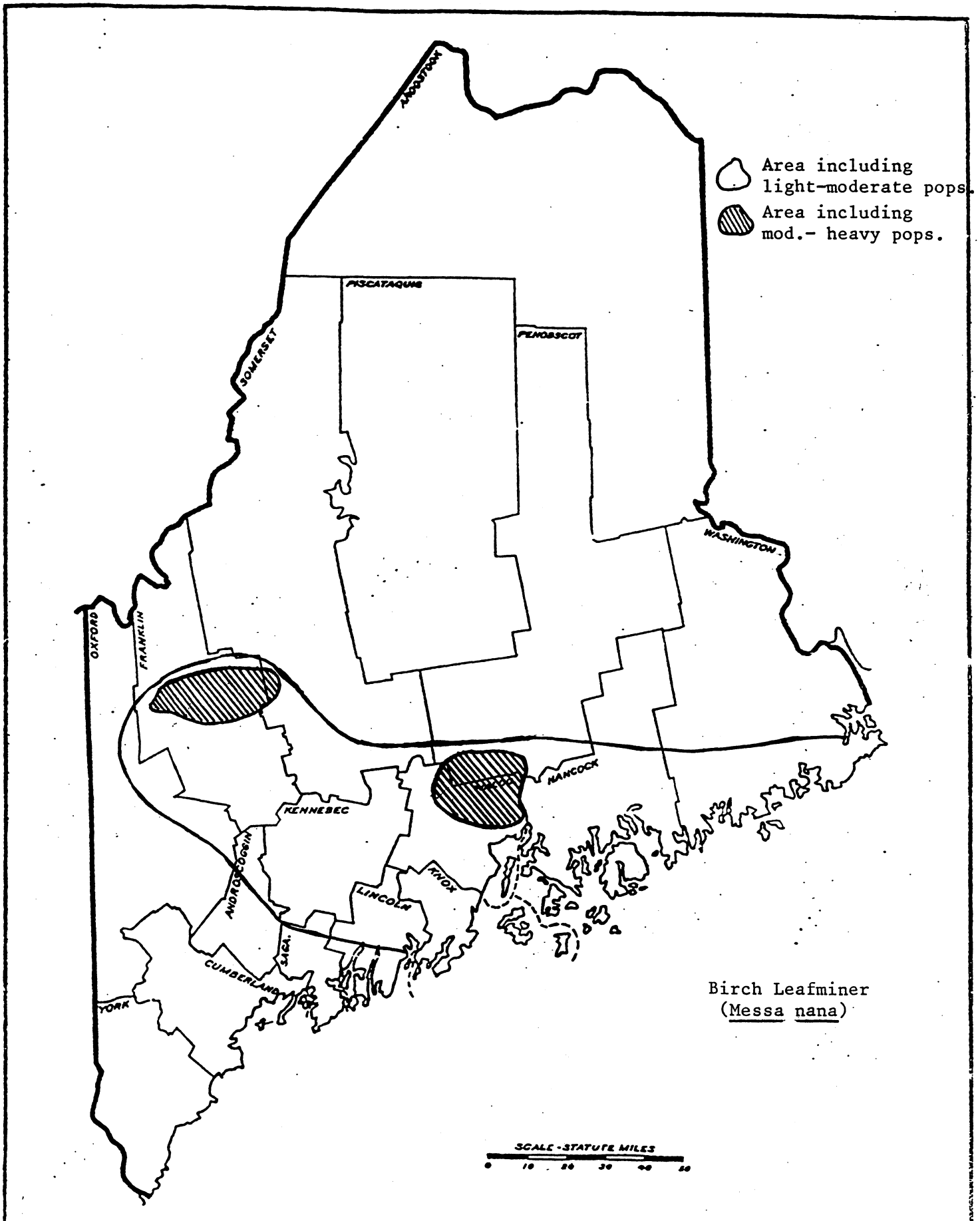


Birch Leafminer
(Messa nana)

ME

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN
Northern Hardwoods	2,000+	Light to Severe Defoliation

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Browntail Moth

SCIENTIFIC NAME Euproctis chrysorrhoea

SPECIFIC TREE SPECIES AFFECTED Oak, Hawthorn, Amelanchier, Willow, Cherry, Rubus, & Rosa as well as others.

AGE OF AFFECTED TREES (understory, pole, mature, regeneration)
All ages

SURVEY METHOD Visual survey of suspected areas & clipping of incidental webs.

TREATMENT (if any) 65 acre island treated with B.t. in spring & fall of 1992.

TREND (Past and Future) Area and intensity increasing. Many islands & spots on mainland are infested. Continued future expansion is expected.

LOCATION MAP ENCLOSED XX TAPE ENCLOSED _____
STATEWIDE _____ OR:
COUNTY _____ TOWNSHIP _____

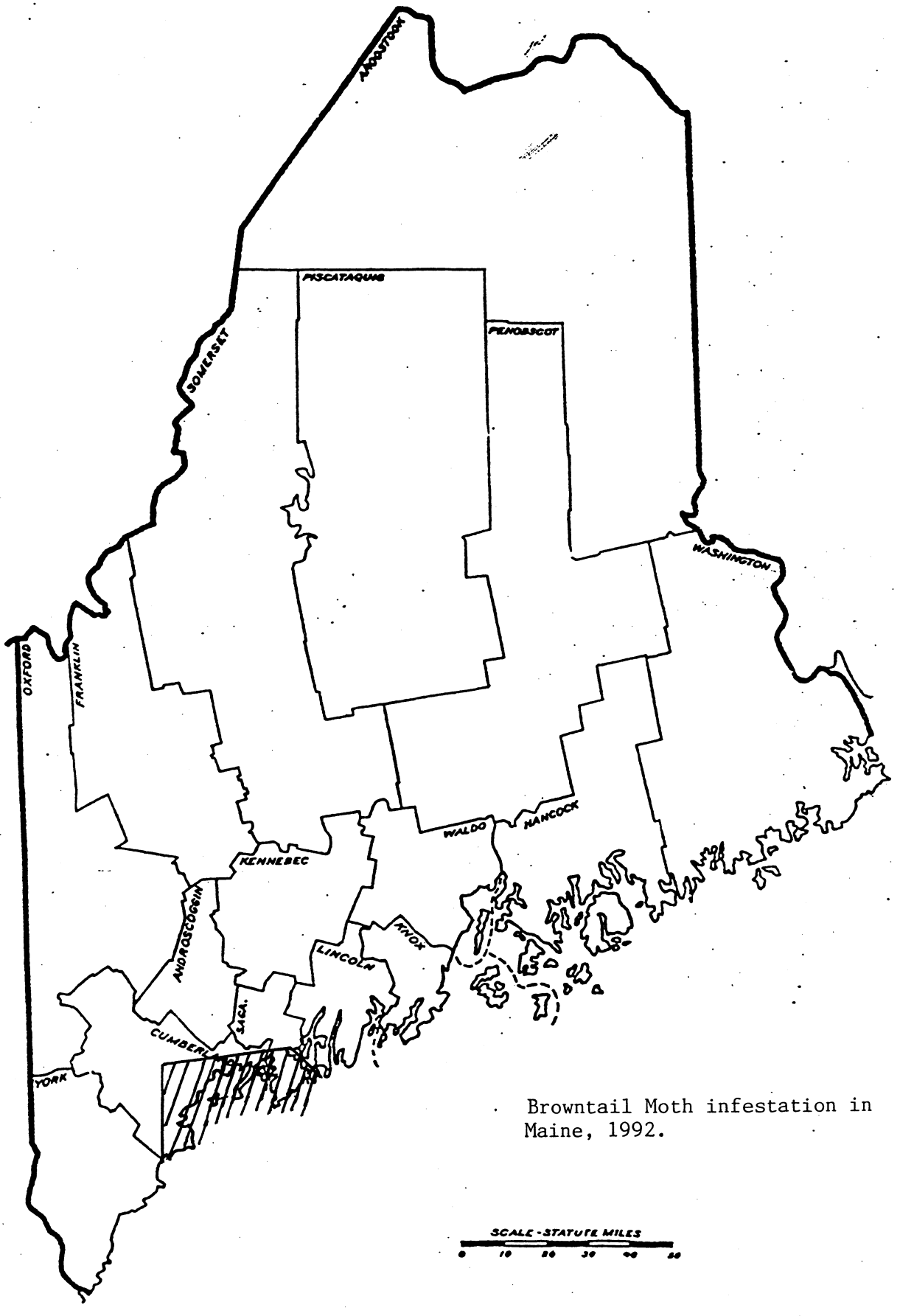
(If needed, continue on reverse side)

COMMENTS Pheromone needed for a survey tool in order to monitor this pest. Control efforts have been ineffective. Work will continue in the spring of 1993 using Foray 48B.

MR

1992

MAINE



Browntail Moth infestation in Maine, 1992.

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
Northern Hardwood	0	No defoliation detected.

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Bruce Spanworm

SCIENTIFIC NAME Operophtera bruceata

SPECIFIC TREE SPECIES AFFECTED Primarily sugar maple

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) Mature

SURVEY METHOD Point sampling

TREATMENT (if any) None

TREND (Past and future) No defoliation was reported in 1992 but moth populations were very high in some stands in November. Populations are difficult to assess but may be headed up.

LOCATION MAP ENCLOSED _____ TAPE ENCLOSED _____

STATEWIDE xx OR:

COUNTY _____ TOWNSHIP _____

(If needed, continue on reverse side)

COMMENTS

MR

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN
Spruce Fir	Undetermined	Mortality

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Eastern Larch Bark Beetle

SCIENTIFIC NAME Dendroctonus simplex

SPECIFIC TREE SPECIES AFFECTED Larix laricina

AGE OF AFFECTED TREES (understory, pole, mature, regeneration)
Pole and mature

SURVEY METHOD Field observation

TREATMENT (if any) Salvage cuts only

TREND (Past and Future) Annual mortality is stable and currently estimated to be less than 5%

LOCATION MAP ENCLOSED _____ TAPE ENCLOSED _____

STATEWIDE XX OR:

COUNTY _____ TOWNSHIP _____

(If needed, continue on reverse side)

COMMENTS No formal annual survey is done. A five year assessment of volume loss is planned.

MR

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
Elm-Ash-Cottonwood	115,000 acres ±	Moderate (2-3 tents per mature tree) at most sites with some individual variation.

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Fall Webworm

SCIENTIFIC NAME Hyphantria cunea

SPECIFIC TREE SPECIES AFFECTED Many hardwoods

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) All ages

SURVEY METHOD Point sampling & light traps

TREATMENT (if any) Homeowner only

TREND (Past and future) Seems to be stabilizing at or slightly lower than 1991 levels. Populations may be headed downward.

LOCATION MAP ENCLOSED _____ TAPE ENCLOSED _____

STATEWIDE XX but primarily concentrated to type in southwestern Maine

COUNTY	TOWNSHIP

(If needed, continue on reverse side)

COMMENTS

MB

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
Aspen-Birch	0	No Defoliation reported

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Forest Tent Caterpillar

SCIENTIFIC NAME Malacosoma disstria

SPECIFIC TREE SPECIES AFFECTED Mostly Populus spp. in Maine

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) All ages

SURVEY METHOD Point sampling & light traps

TREATMENT (if any) None

TREND (Past and future) No change. No defoliation detected

LOCATION **MAP ENCLOSED** _____ **TAPE ENCLOSED** _____

STATEWIDE XX OR:

COUNTY _____ TOWNSHIP _____

(If needed, continue on reverse side)

COMMENTS

MB

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN
Oak/Pine	194,939 (70%)	Greater than 30%
Northern Hardwood	41,772 (15%)	Defoliation
Aspen Birch	41,772 (15%)	

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Gypsy Moth

SCIENTIFIC NAME Lymantria dispar

SPECIFIC TREE SPECIES AFFECTED Various but red oak is favored

AGE OF AFFECTED TREES (understory, pole, mature, regeneration)
All ages

SURVEY METHOD Aerial defoliation survey

TREATMENT (if any) Approximate 2,500 acres are treated by ground or aerial equipment in private projects.

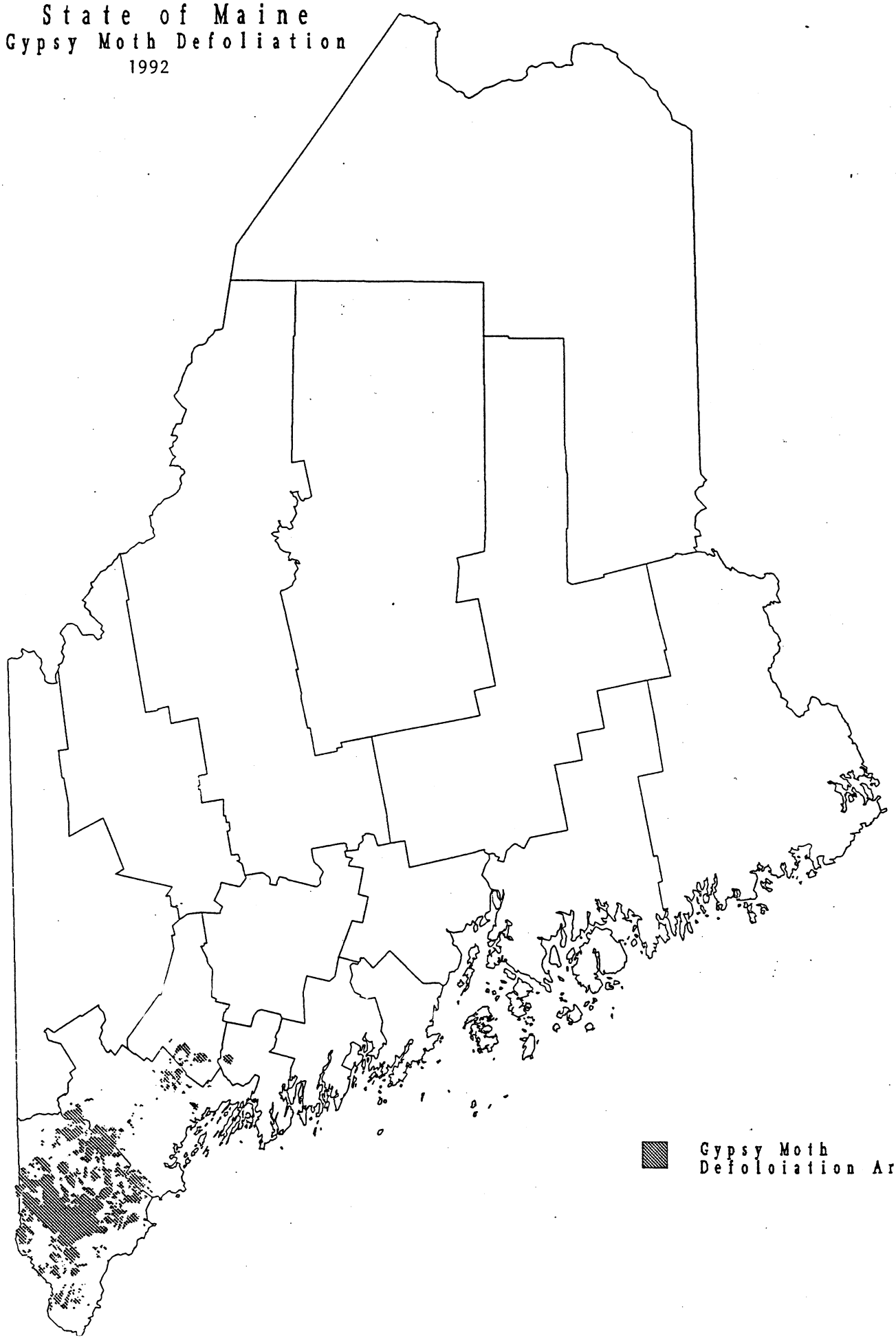
TREND (Past and Future) Populations peaked in 1991 and are expected to continue downward.

LOCATION MAP ENCLOSED XX TAPE ENCLOSED _____
STATEWIDE _____ OR:
COUNTY _____ TOWNSHIP _____

(If needed, continue on reverse side)

COMMENTS Egg mass surveys done in September 1992 show a large reduction in the number of overwintering egg masses when compared to 1991 levels.

State of Maine
Gypsy Moth Defoliation
1992



MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
Eastern Hemlock (wh-rd-jk pine)	62,000	Heavy >50% Def.
	140,000	Detectable <50% Def.
Spruce-Fir	18,000	Heavy <50% Def.

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak-Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Hemlock Looper (Fall)

SCIENTIFIC NAME Lambdina fiscellaria

SPECIFIC TREE SPECIES AFFECTED Eastern Hemlock, Balsam Fir, White Sp.

AGE OF AFFECTED TREES (understory, pole, mature, regeneration)
This pest affects all size classes. Damage in most areas is heaviest on intermediate and suppressed trees and regeneration.

SURVEY METHOD Aerial survey over the southern half of Maine was used as a detection tool and to map damage. Damage levels determined from the air were confirmed with ground checks. Ground surveys of larval and egg density were conducted using methods developed in Maine. Moth activity was evaluated using a combination of light and pheromone traps as well as ground observations.

TREATMENT (if any)
Approximately 900 acres of private residential and recreational property were treated with Bt. (one app. of Foray 48) with good results. Treatment areas were predominantly in the eastern part of the infested area. Control was private but, technical assistance was provided by the State

TREND (past and future) Looper survival was poor in 1992 and the defoliated area decreased. Larval and egg surveys show that some of the oldest infested areas in central Maine are declining but, some areas in the east remain heavily infested. Some areas that received moderate defoliation in 1992 retain heavy egg densities. The overall looper trend is a modest decline from 1991 levels.

LOCATION MAP ENCLOSED X TAPE ENCLOSED _____

STATEWIDE _____ OR:

COUNTY _____ TOWNSHIP _____

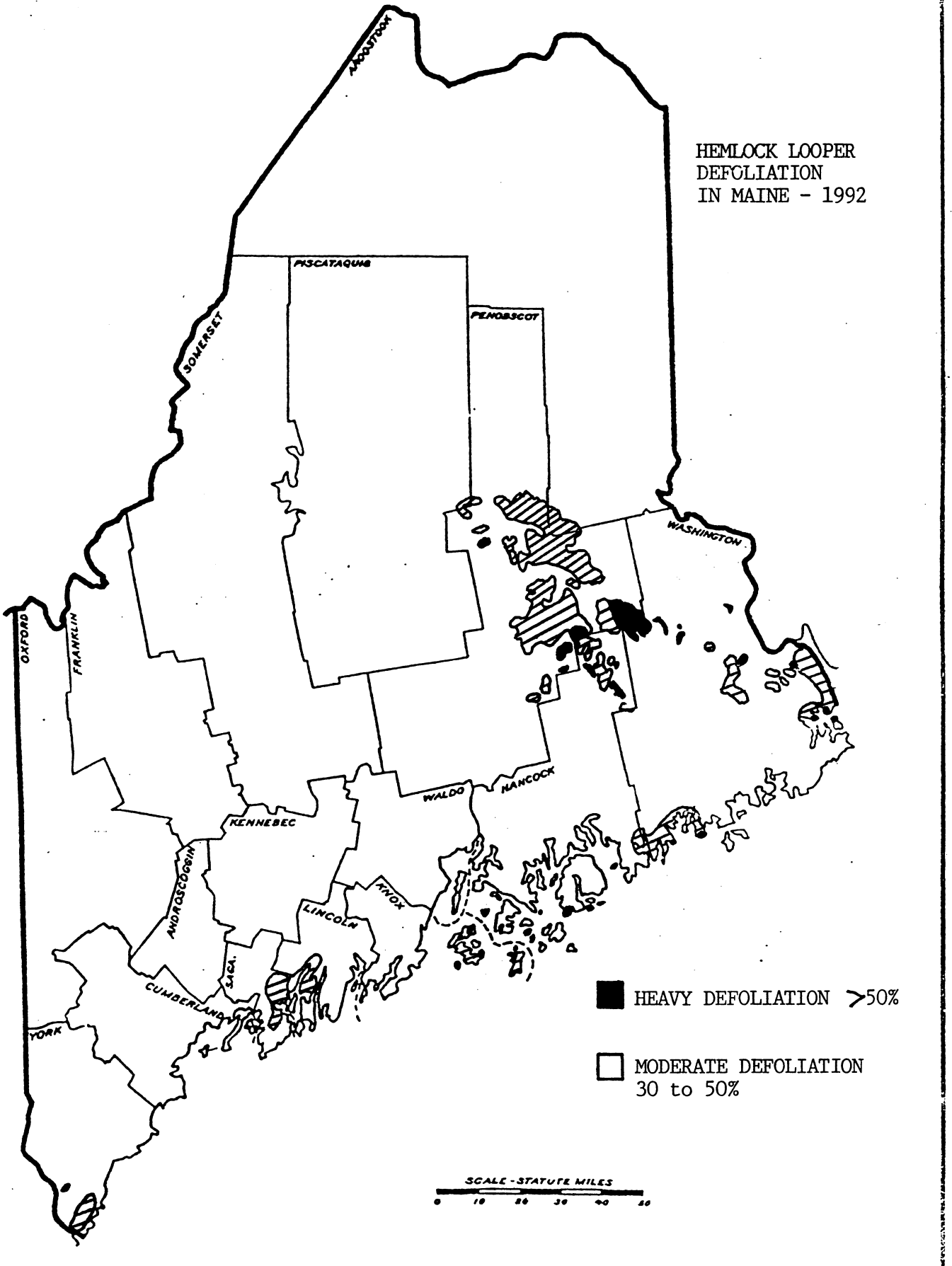
_____ _____

_____ _____

_____ _____

1992

MAINE


HEMLOCK LOOPER
DEFOLIATION
IN MAINE - 1992
AROOSTOOK
PISCATAQUIS
PENOBSCOT
SOMERSET
WASHINGTON
OXFORD
FRANKLIN
WALDO
HANCOCK
KENNEBEC
ANDROSCOGGIN
KNOX
LINCOLN
SAGA.
CUMBERLAND
YORK
HEAVY DEFOLIATION >50%
MODERATE DEFOLIATION
30 to 50%
SCALE - STATUTE MILES
0 10 20 30 40 50

ME

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
Spruce/Fir (Hemlock component)	7770.5 M	None
White/Red/Jack Pine (Hemlock component)	2194.7 M	None

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Hemlock Woolly Adelgid

SCIENTIFIC NAME Adelges tsugae

SPECIFIC TREE SPECIES AFFECTED Hemlock Tsuga canadensis (L.)

AGE OF AFFECTED TREES (understory, pole, mature, regeneration)

NONE

SURVEY METHOD Visual survey of susceptible forest type and checks of nurseries and retail stores selling shubbery.

TREATMENT (if any) NONE. There is a State quarantine in effect against the introduction of this pest into the state.

TREND (Past and future) No infestation known in the state, and none expected in the near future.

LOCATION **MAP ENCLOSED** XXXXX **TAPE ENCLOSED** _____

STATEWIDE _____ OR:

COUNTY _____ TOWNSHIP _____

_____ _____

_____ _____

_____ _____

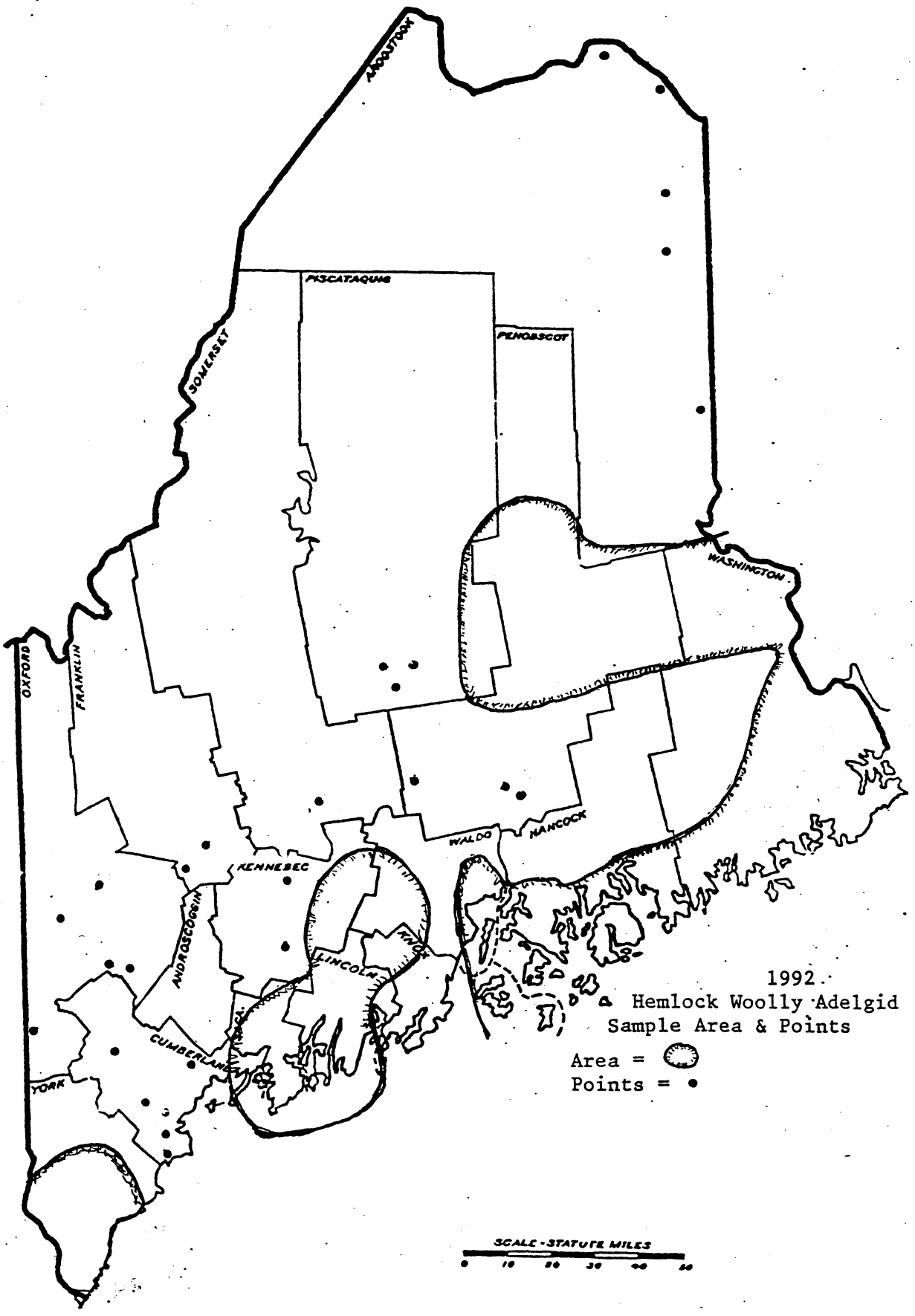
_____ _____

(If needed, continue on reverse side)

COMMENTS

1992

MAINE


AROOSTOOK
PISCATAQUIS
PENOBSCOT
SOMERSET
WASHINGTON
OXFORD
FRANKLIN
WALDO
HANCOCK
KENNEBEC
ANDROSCOGGIN
KNOX
LINCOLN
CUMBERLAND
YORK
1992
Hemlock Woolly Adelgid
Sample Area & Points
Area =
Points =
SCALE - STATUTE MILES
0 10 20 30 40 50

ME

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
White-Red-Jack Pine	500 acres	Mod.-Sev. Between 50-75% of trees affected.

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Jack Pine Sawfly

SCIENTIFIC NAME Neodiprion pratti banksianae

SPECIFIC TREE SPECIES AFFECTED Pinus banksiana

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) Mature . Most of the infested trees are somewhat stunted due to poor growing conditions and are less than 50 feet in height. These trees also are affected by many other problems as wel

SURVEY METHOD Point sample

TREATMENT (if any) None

TREND (Past and future) Down somewhat from 1991 levels in both area and intensity. Expected to remain stable at 1992 levels in 1993.

LOCATION **MAP ENCLOSED** _____ **TAPE ENCLOSED** _____

STATEWIDE _____ **OR:**

COUNTY Washington **TOWNSHIP** Steuben

(If needed, continue on reverse side)

COMMENTS

ME

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
Spruce-Fir, Urban & Plantation	Not defined but faily well throughout the resource 108,000 acres ±	Greatly variable & often extremely local. Ranges from light (< 25% of needles affected) to heavy (>75%)

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Larch Casebearer

SCIENTIFIC NAME Coleophora laricella

SPECIFIC TREE SPECIES AFFECTED Mostly Larix laricina

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) All ages

SURVEY METHOD Point sampling

TREATMENT (if any) None

TREND (Past and future) The outbreak of this species appears to have stabilized in this, the fifth consecutive year. We look forward to a downturn in 1993.

LOCATION **MAP ENCLOSED** _____ **TAPE ENCLOSED** _____

STATEWIDE XX OR:

COUNTY	TOWNSHIP

(If needed, continue on reverse side)

COMMENTS

MB

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	**ACRES/AREA AFFECTED**	**SEVERITY/PATTERN (Define classes)**
Spruce-Fir & Plantation	1000 acres ±	Light generally, some trees mod.

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Larch sawfly

SCIENTIFIC NAME Pristiphora erichsonii

SPECIFIC TREE SPECIES AFFECTED Mostly Larix laricina

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) Pole & mature

SURVEY METHOD Point sampling

TREATMENT (if any) None

TREND (Past and future) Populations appear to be up noticeably from 1991 levels and are expected to continue up in 1993.

LOCATION **MAP ENCLOSED** _____ **TAPE ENCLOSED** _____

STATEWIDE _____ **OR:**

COUNTY	**TOWNSHIP**
Franklin	Central
Somerset	Southern & Central
Piscataquis	Southern
Penobscot	Southern & Central

(If needed, continue on reverse side)

COMMENTS

MR

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
Aspen-Birch	22,000	Heavy > 50% Def.

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak-Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Large Aspen Tortrix

SCIENTIFIC NAME Choristoneura conflictana

SPECIFIC TREE SPECIES AFFECTED Trembling aspen

AGE OF AFFECTED TREES (understory, pole, mature, regeneration)
All size classes of trembling aspen were affected.

SURVEY METHOD Aerial survey was used to detect and delineate this pest. Areas were flown at 1,200 feet above the ground with a Cessna 185. A sample of the mapped areas were ground checked to confirm the causal agent.

TREATMENT (if any)
None

TREND (past and future) Defoliation by this insect increased in 1992 compared to 1991. Areas mapped in 1992 in western Maine were somewhat smaller than in 1991 but new large areas were mapped in northern Maine. The general trend for this insect for the last three years has been to increase in total defoliated area but, some changes in location have occurred.

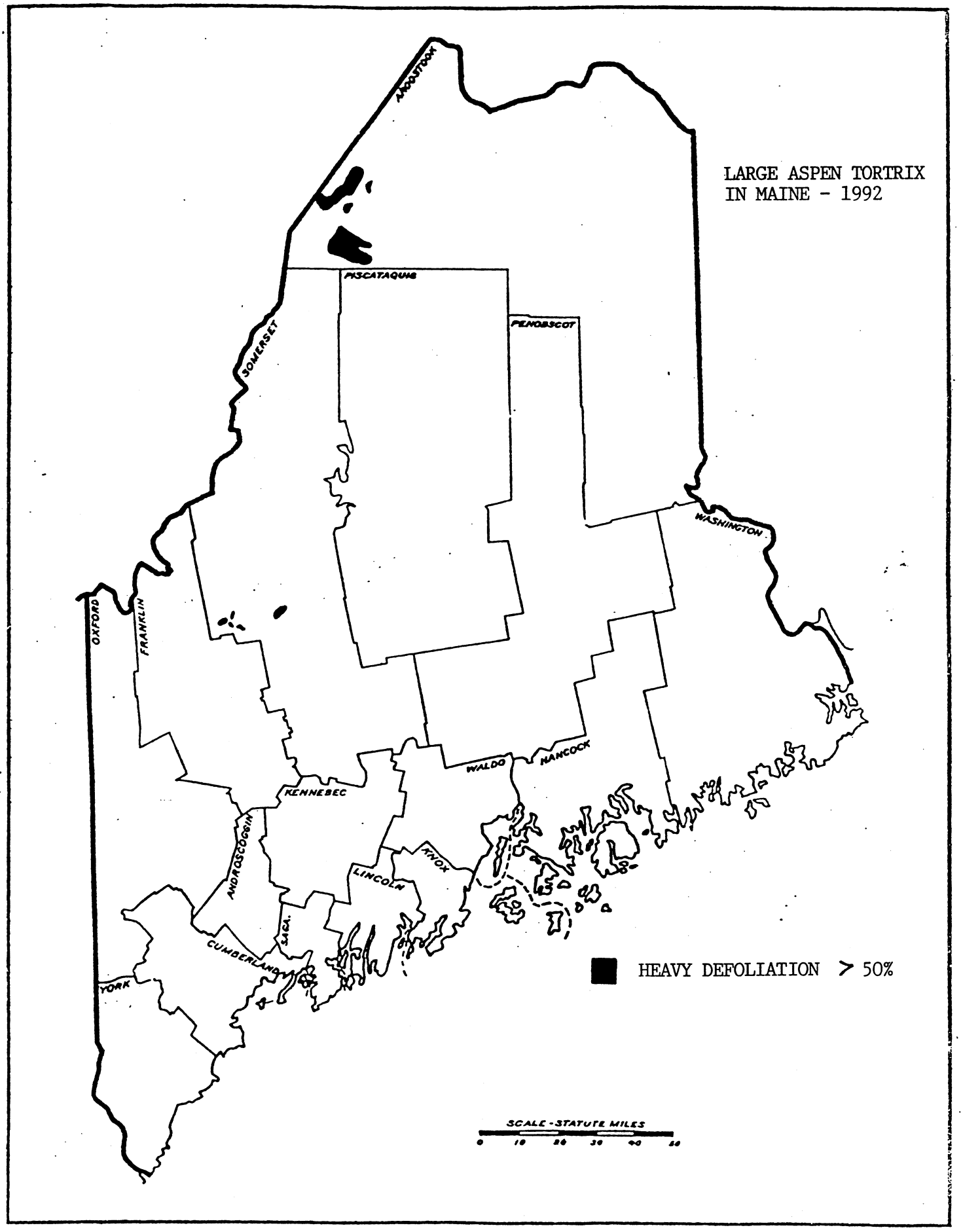
LOCATION MAP ENCLOSED X TAPE ENCLOSED _____

STATEWIDE _____ OR:

COUNTY _____ TOWNSHIP _____

1992

MAINE


AROOSTOOK
PISCATAQUIS
PENOBSCOT
SOMERSET
WASHINGTON
OXFORD
FRANKLIN
WALDO
HANCOCK
KENNEBEC
ANDROSCOGGIN
KNOX
LINCOLN
SAGA.
CUMBERLAND
YORK
LARGE ASPEN TORTRIX
IN MAINE - 1992
HEAVY DEFOLIATION > 50%
SCALE - STATUTE MILES
0 10 20 30 40 50

ME

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
Urban-Farm	local	Moderate - Heavy where found

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT: Locust Leafminer

SCIENTIFIC NAME: Odontota dorsalis

SPECIFIC TREE SPECIES AFFECTED: Robinia pseudoacacia

AGE OF AFFECTED TREES (understory, pole, mature, regeneration): All ages

SURVEY METHOD: Point sampling

TREATMENT (if any): No

TREND (Past and future): This previously uncommon beetle have now been seen from several new areas in Maine and damage was much more noticeable in 1992 than in 1991.

LOCATION **MAP ENCLOSED** _____ **TAPE ENCLOSED** _____

STATEWIDE _____ **OR:**

COUNTY	TOWNSHIP
Kennebec	Mt. Vernon, Benton, Augusta
Penobscot	Newport, Bangor
Cumberland	Falmouth, Yarmouth
York	Kittery

(If needed, continue on reverse side)

COMMENTS

ME

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
Elm-Ash-Cottonwood	Not defined	Generally very light

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Maple Leafroller

SCIENTIFIC NAME Sparganothis acerivorana

SPECIFIC TREE SPECIES AFFECTED Acer rubrum

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) Mature

SURVEY METHOD Point sampling & aerial

TREATMENT (if any) None

TREND (Past and future) Populations continued to slide again in 1992 and no defoliation was observed even in areas of Hancock county where defoliation had previously been heavy.

LOCATION **MAP ENCLOSED** _____ **TAPE ENCLOSED** _____

STATEWIDE XX OR:

COUNTY	TOWNSHIP

(If needed, continue on reverse side)

COMMENTS

MFR

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
Northern Hardwood	0	No defoliation reported

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Orangehumped Mapleworm

SCIENTIFIC NAME Symmerista leucitys

SPECIFIC TREE SPECIES AFFECTED Acer saccharum

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) Mature

SURVEY METHOD Point sampling & light traps

TREATMENT (if any) None

TREND (Past and future) Continued downward. This species is now at endemic and very low numbers and is expected to remain there in 1993.

LOCATION MAP ENCLOSED _____ TAPE ENCLOSED _____

STATEWIDE XX OR:

COUNTY	TOWNSHIP

(If needed, continue on reverse side)

COMMENTS

MR

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
Northern Hardwood	0	No damage

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Pear Thrips

SCIENTIFIC NAME Taeniothrips inconsequens

SPECIFIC TREE SPECIES AFFECTED Acer saccharum

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) Mature

SURVEY METHOD Sticky traps (APHIS) and point sampling (Visual)

TREATMENT (if any) None

TREND (Past and future) Stable at low levels (pops. & damage).

LOCATION MAP ENCLOSED _____ TAPE ENCLOSED _____

STATEWIDE XX OR:

COUNTY	TOWNSHIP

(If needed, continue on reverse side)

COMMENTS

MF

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
Plantation	150 acres	Severe - Over 75% needles affected

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Pine Needleminer

SCIENTIFIC NAME Exoteleia pinifoliella

SPECIFIC TREE SPECIES AFFECTED Pinus banksiana

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) Pole

SURVEY METHOD Point sample

TREATMENT (if any) None

TREND (Past and future) Stable overall. This species occurs nearly every year somewhere in the State on either jack or pitch pine. It is primarily an aesthetic problem here.

LOCATION MAP ENCLOSED _____ TAPE ENCLOSED _____

STATEWIDE _____ OR:

COUNTY	TOWNSHIP
Penobscot	T3 R1 NBPP

(If needed, continue on reverse side)

COMMENTS

ME

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
Spruce-Fir	!000 acres ±	50% ± of tips showing galls on some trees.

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Red Spruce Gall Aphid

SCIENTIFIC NAME Pineus floccus

SPECIFIC TREE SPECIES AFFECTED Primarily Picea rubens

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) Mostly mature or pole

SURVEY METHOD Point sampling

TREATMENT (if any) None

TREND (Past and future) Up in 1992.

LOCATION **MAP ENCLOSED** _____ **TAPE ENCLOSED** _____

STATEWIDE _____ **OR:**

COUNTY	**TOWNSHIP**
Sagadahoc	Phippsburg
piscataquis	Wellington

(If needed, continue on reverse side)

COMMENTS

MR

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
Northern Hardwood	0	No pops. or damage

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Saddled Prominent

SCIENTIFIC NAME Heterocampa guttivitta

SPECIFIC TREE SPECIES AFFECTED Acer saccharum

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) Mature

SURVEY METHOD Point sampling & light traps

TREATMENT (if any) None

TREND (Past and future) No larvae or damage found.

LOCATION **MAP ENCLOSED** _____ **TAPE ENCLOSED** _____

STATEWIDE XX **OR:**

COUNTY _____ **TOWNSHIP** _____

(If needed, continue on reverse side)

COMMENTS

ME

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
White-Red- Jack Pine	0	No damage observed or reported

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Saratoga Spittlebug

SCIENTIFIC NAME Aphrophora saratogensis

SPECIFIC TREE SPECIES AFFECTED Pinus resinosa

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) Plantation

SURVEY METHOD Point sampling

TREATMENT (if any) None

TREND (Past and future) Not known

LOCATION MAP ENCLOSED _____ TAPE ENCLOSED _____

STATEWIDE _____ OR:

COUNTY _____ TOWNSHIP _____

(If needed, continue on reverse side)

COMMENTS

ME

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
Aspen-Birch	2,600	Heavy > 50% Def.

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak-Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Satin Moth

SCIENTIFIC NAME Leucoma salicis

SPECIFIC TREE SPECIES AFFECTED Trembling aspen and Bigtooth aspen

AGE OF AFFECTED TREES (understory, pole, mature, regeneration)
Mature and pole timber

SURVEY METHOD Aerial survey was used to detect and delineate this pest. Areas were flown at 1,200 feet above the ground with a Cessna 185. A sample of the mapped areas were ground checked to confirm the causal agent.

TREATMENT (if any)
None

TREND (past and future)
Defoliation by satin moth larvae increased sharply in 1992 compared to the recent past. Small spots of defoliation were seen in 1989 but, no defoliation was mapped in 1990 or 1991. A larger outbreaks of this pest occurred from 1969 to 1974.

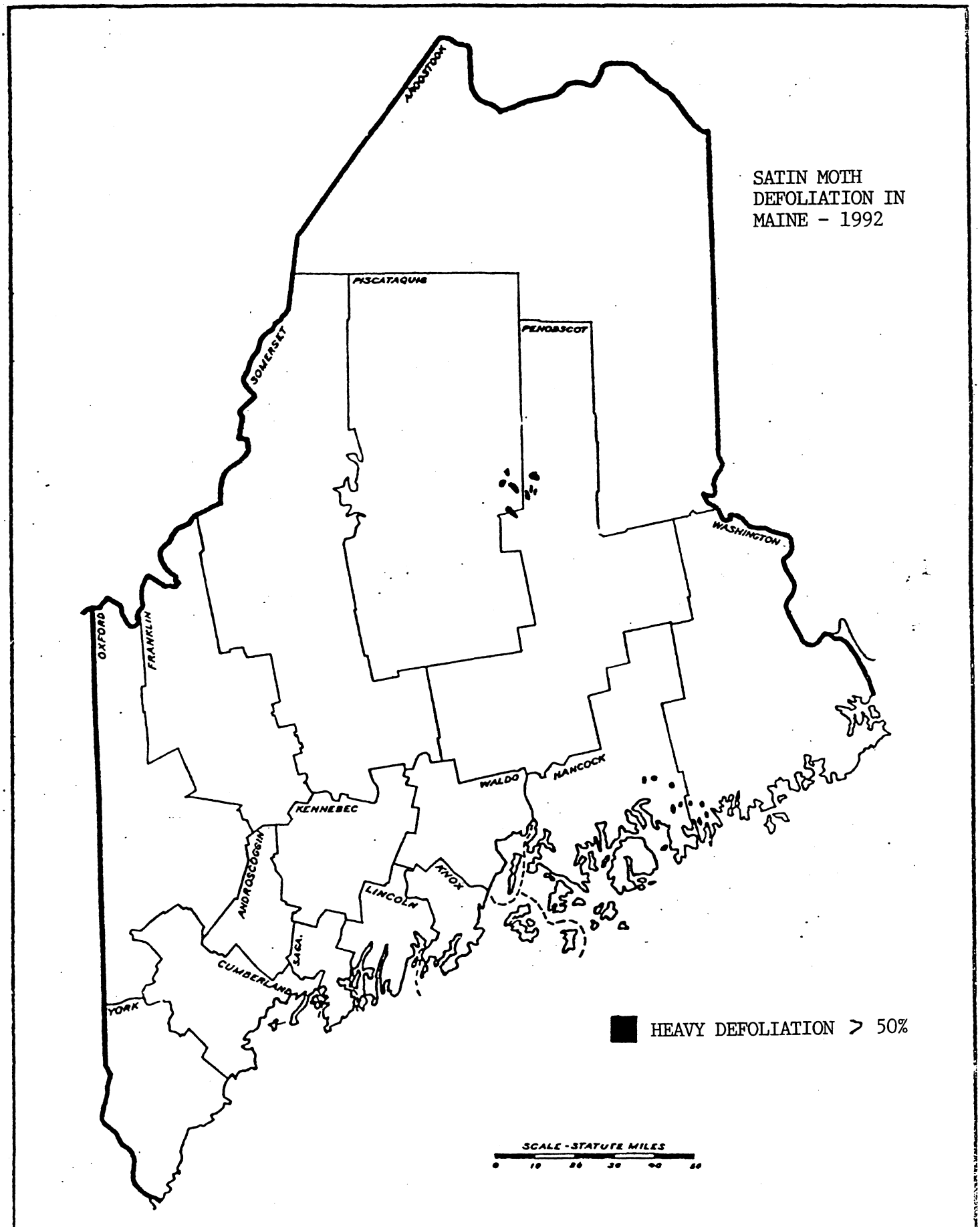
LOCATION **MAP ENCLOSED** X **TAPE ENCLOSED** _____

STATEWIDE _____ **OR:**

COUNTY _____ **TOWNSHIP** _____

1992

MAINE


SATIN MOTH
DEFOLIATION IN
MAINE - 1992
AROOSTOOK
PISCATAQUIS
PENOBSCOT
SOMERSET
WASHINGTON
OXFORD
FRANKLIN
WALDO
HANCOCK
KENNEBEC
ANDROSCOGGIN
KNOX
LINCOLN
SAG.
CUMBERLAND
YORK
HEAVY DEFOLIATION > 50%
SCALE - STATUTE MILES

MR

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
Spruce-Fir	9,100	Heavy >25% of spruce dead

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak-Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Spruce Beetle

SCIENTIFIC NAME Dendroctonus rufipennis

SPECIFIC TREE SPECIES AFFECTED White Spruce, Red Spruce

AGE OF AFFECTED TREES (understory, pole, mature, regeneration)
Damage is usually restricted to large (>15") mature and overmature trees.

SURVEY METHOD Aerial survey was used to detect and delineate this pest. Areas were flown at 1,200 feet above the ground with a Cessna 185. A sample of the mapped areas were ground checked to confirm the causal agent and to check for new beetle attack not visible from the air.

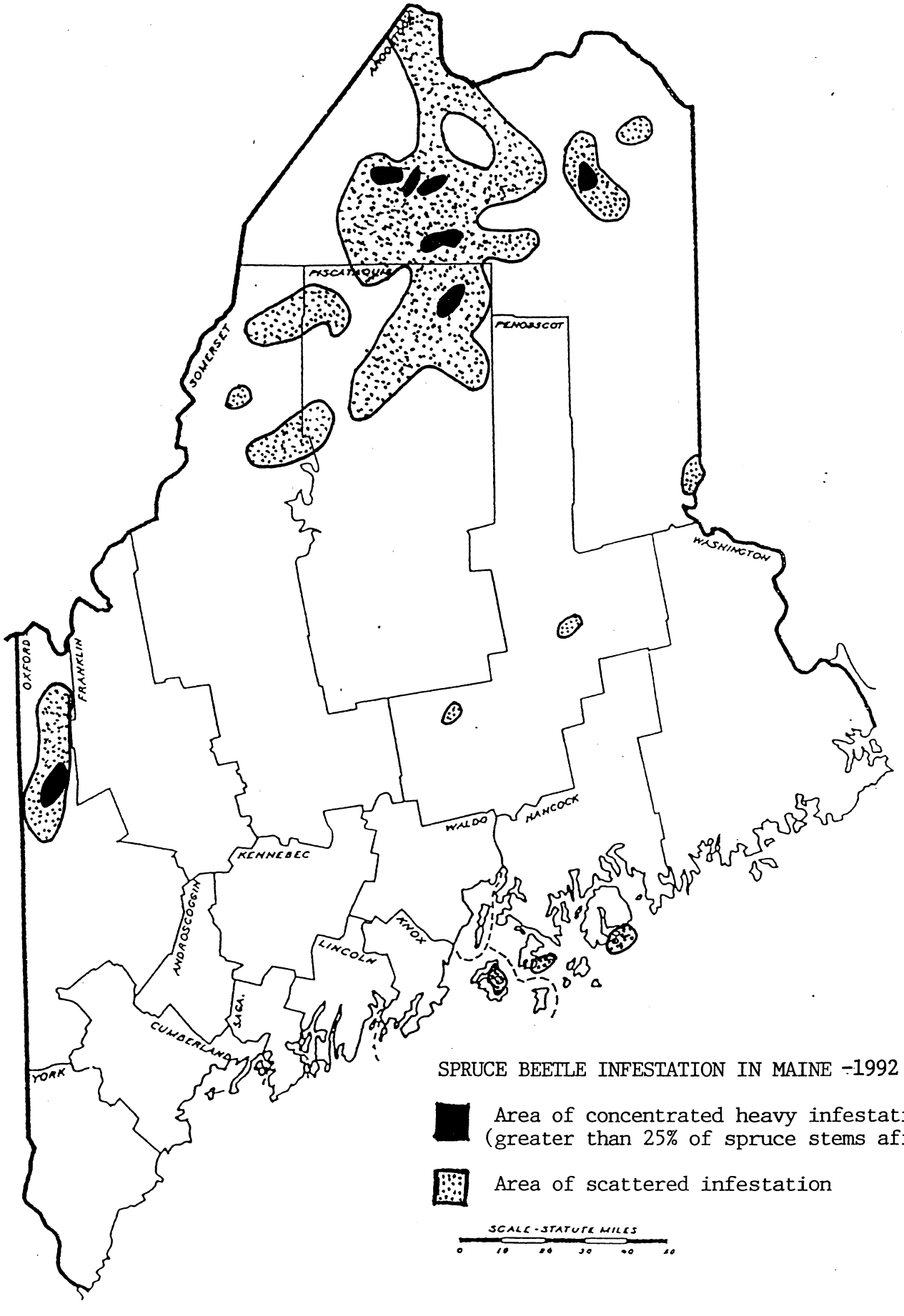
TREATMENT (if any)
None

TREND (past and future)
New attack from spruce beetle has nearly ceased. The only new attacks that occurred in 1991 and 1992 were in the east coastal area, predominantly on islands. Fifty new acres were added in 1992.

LOCATION **MAP ENCLOSED** X **TAPE ENCLOSED** _____

STATEWIDE _____ **OR:**

COUNTY	**TOWNSHIP**



SPRUCE BEETLE INFESTATION IN MAINE -1992

Area of concentrated heavy infestation (greater than 25% of spruce stems affected

Area of scattered infestation

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
Spruce-Fir	0	No Damage

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak-Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Spruce Budworm

SCIENTIFIC NAME Choristoneura fumiferana

SPECIFIC TREE SPECIES AFFECTED Balsam Fir. White Spruce, Red Spruce

AGE OF AFFECTED TREES (understory, pole, mature, regeneration)
Scattered budworm larvae were found on all sizes of host trees.

SURVEY METHOD Twenty permanent locations scattered throughout the spruce-fir type were surveyed for larvae in June by collecting 10 branch tips at each location. Pheronone traps baited with budworm pheromone were deployed at each location. Light traps were operated in the vicinity of 12 of the 20 permanent locations. In addition to surveys at permanent locations budworm were noted in FIDS and FHM surveys.

TREATMENT (if any)
None

TREND (past and future) Budworm populations remain very low in all of the spruce-fir type of Maine but, casual observations of larvae in FIDS collections increased in 1992. The number of moths caught in pheromone traps increased sharply in 1992 compared to 1991. Light trap catches did not show a similar increase.

LOCATION MAP ENCLOSED _____ TAPE ENCLOSED _____

STATEWIDE _____ OR: No defoliation or significant larval population found

COUNTY	TOWNSHIP

ME

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
Northern Hardwood	Scattered pockets	Generally trace to light

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Variable Oakleaf Caterpillar

SCIENTIFIC NAME Lochmaeus manteo

SPECIFIC TREE SPECIES AFFECTED Primarily Fagus grandifolia

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) Mature

SURVEY METHOD Point sampling

TREATMENT (if any) None

TREND (Past and future) Continued down. Populations are now very low and just above what we generally perceive as endemic levels. Expected to continue down.

LOCATION **MAP ENCLOSED** _____ **TAPE ENCLOSED** _____

STATEWIDE _____ **OR:**

COUNTY	**TOWNSHIP**
Somerset	Central part - General
Piscataquis	Southern part - General

(If needed, continue on reverse side)

COMMENTS

ME

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN
White/Red/Jack Pine	513,000	$\bar{X}$ - 15% leader mortality

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT White Pine Weevil

SCIENTIFIC NAME Pissodes strobi

SPECIFIC TREE SPECIES AFFECTED Pinus strobus

AGE OF AFFECTED TREES (understory, pole, mature, regeneration)
Understory, pole

SURVEY METHOD Field observation

TREATMENT (if any) Circa 1000 acres are annually treated with Lindane or Dimilin to control this pest.

TREND (Past and Future) Stable

LOCATION MAP ENCLOSED _____ TAPE ENCLOSED _____

STATEWIDE XX OR:

COUNTY _____ TOWNSHIP _____

(If needed, continue on reverse side)

COMMENTS 10 acre field trial with Esfenvalerate was unsuccessful when aerially applied.

ME

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
Spruce-Fir & Plantation	Spotty	Very Severe (75-100% defoliation) on individual trees.

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Yellowheaded Spruce Sawfly

SCIENTIFIC NAME Pikonema alaskensis

SPECIFIC TREE SPECIES AFFECTED Picea glauca, P. abies & P. pungens

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) trees most commonly affected were plantation, solitary or ornamental trees 3 - 12 ft. tall.

SURVEY METHOD Point sampling

TREATMENT (if any) None

TREND (Past and future) This pest has normally been associated with ornamental trees in the recent past. This is the first season since the 1960's that noticeable pops. have been seen on plantation spruce. Pops. and damage were up strikingly in 1992. It is not known at this point what will happen in 1993.

LOCATION **MAP ENCLOSED** _____ **TAPE ENCLOSED** _____

STATEWIDE _____ **OR:**

COUNTY	**TOWNSHIP**
Aroostook	Spotty throughout at least the eastern half
Penobscot	Spotty throughout

(If needed, continue on reverse side)

COMMENTS

ME

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
Urban-Ornamental	1000 A	Trace - Moderate (0-69% of needles affected)

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Air Pollution

SCIENTIFIC NAME Ozone, Sulfur Dioxide

SPECIFIC TREE SPECIES AFFECTED Pinus strubus, Pinus nigra

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) Mature

SURVEY METHOD Point

TREATMENT (if any) None

TREND (Past and future) Down in 1992, generally down in future with significant episodes in some years

LOCATION **MAP ENCLOSED** X **TAPE ENCLOSED** _____

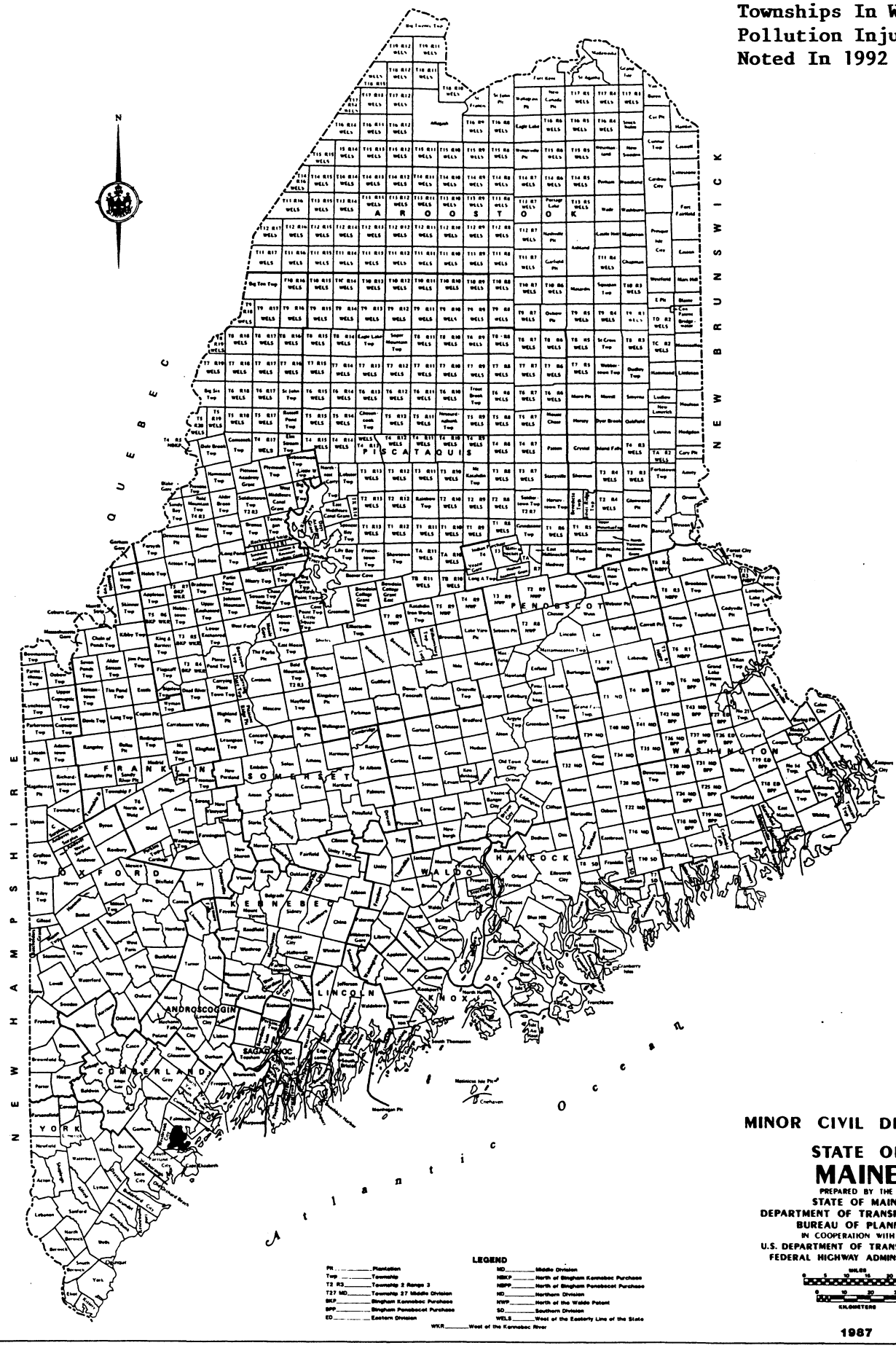
STATEWIDE _____ **OR:**

COUNTY _____ **TOWNSHIP** _____

(If needed, continue on reverse side)

COMMENTS

Townships In Which Air Pollution Injury Was Noted In 1992



LEGEND

PR _____ Plantation
Twp _____ Township
T2 R3 _____ Township 2 Range 3
T27 MD _____ Township 27 Middle Division
BKP _____ Bingham Kennebec Purchase
BPP _____ Bingham Penobscot Purchase
ED _____ Eastern Division
MD _____ Middle Division
NBKP _____ North of Bingham Kennebec Purchase
NBPP _____ North of Bingham Penobscot Purchase
ND _____ Northern Division
NWP _____ North of the Wilde Patent
SD _____ Southern Division
WELS _____ West of the Easterly Line of the State
WKR _____ West of the Kennebec River

MINOR CIVIL DIVISIONS

STATE OF MAINE

PREPARED BY THE
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
BUREAU OF PLANNING
IN COOPERATION WITH THE
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

MILES
0 5 10 15 20 25
0 10 20 30
KILOMETERS

1987

Map Revised June 1987

UNITED STATES DEPARTMENT
OF AGRICULTURE

Forest Service

Northeastern Area

Evaluation of Ozone Damage to Vegetation on the Lye Brook Wilderness in 1992

Survey Report

February 1993

Prepared by: James T. O'Brien, Plant Pathologist, Forest Pest Management, Box 640, Durham, NH 03824

HIGLIGHTS

* Ozone concentrations were low in the vicinity of Lye Brook Wilderness during the 1992 growing season. The second highest hourly average concentration - the value used for PSD (Prevention of Significant Deterioration) purposes - was 94 ppb, reached in April. The second highest during the growing season was 93 ppb on June 14, after which concentrations declined markedly. The red line value for PSD purposes, a second highest hourly average concentration of 120 ppb, was not approached in 1992.

* Ozone concentrations reached or exceeded 80 ppb during only 28 hours, the fewest recorded since full-season monitoring began in 1987.

* The low ozone concentrations recorded in 1992 are attributed primarily to the cool, wet weather that prevailed in the summer of that year, rather than to economic conditions or to legal restraints on pollution sources.

* Symptoms of ozone injury to plants on the Wilderness reflected the low concentrations. Injury was found on only one of the 14 white ashes sampled, and on none of the 26 black cherries. Blackberries on only one of the five blackberry plots were injured.

* Continuation of both the ozone concentration monitoring and the vegetation surveys is recommended.

ME

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
Plantation	1000 A	Light (6-29% of susceptible trees affected)

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Annosus Root Rot

SCIENTIFIC NAME Heterobasidion annosum

SPECIFIC TREE SPECIES AFFECTED Pinus resinosa

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) Pole, mature

SURVEY METHOD Point

TREATMENT (if any) Stump treatment with borax

TREND (Past and future) Up as Norway pine plantations are thinned and mature

LOCATION **MAP ENCLOSED** X **TAPE ENCLOSED** _____

STATEWIDE _____ **OR:**

COUNTY _____ **TOWNSHIP** _____

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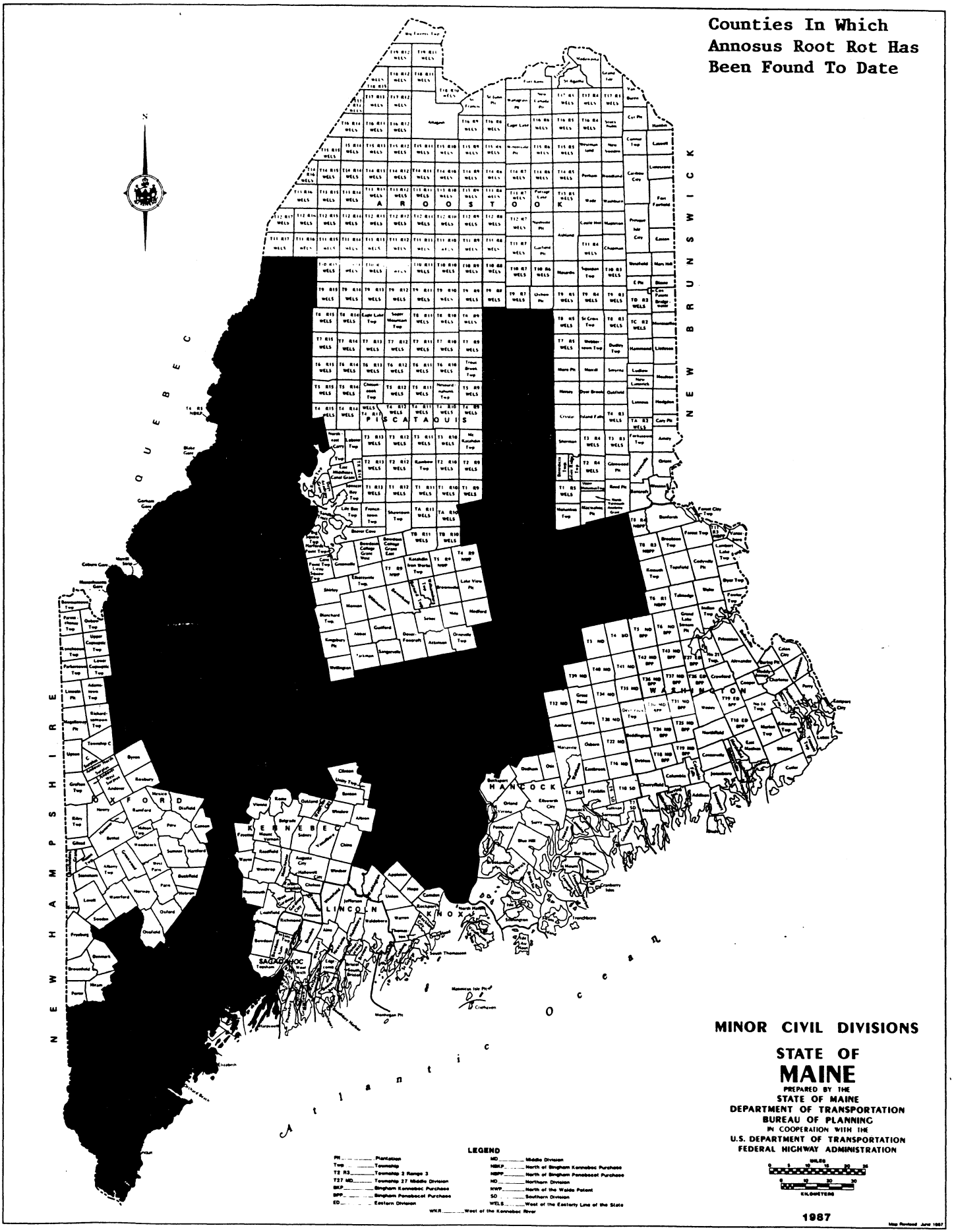
(If needed, continue on reverse side)

COMMENTS


Counties In Which
Annosus Root Rot Has
Been Found To Date
AROOSTOOK
PISCATAQUIS
WASHINGTON
HANCOCK
KENNEBEC
OXFORD
LINCOLN
KNOX
SAGADAHOC
NEW HAMPSHIRE
QUEBEC
NEW BRUNSWICK
Atlantic Ocean
MINOR CIVIL DIVISIONS
STATE OF
MAINE
PREPARED BY THE
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
BUREAU OF PLANNING
IN COOPERATION WITH THE
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
MILES
KILOMETERS
1987
LEGEND
PN. Plantation
Twp Township
T2 R3 Township 2 Range 3
T27 MD Township 27 Middle Division
BKP Bingham Kennebec Purchase
BPP Bingham Penobscot Purchase
ED Eastern Division
MD Middle Division
NBKP North of Bingham Kennebec Purchase
NBPP North of Bingham Penobscot Purchase
ND Northern Division
NWP North of the Wilds Patent
SD Southern Division
WELS West of the Easterly Line of the State
WKR West of the Kennebec River

ME

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	**ACRES/AREA AFFECTED**	**SEVERITY/PATTERN (Define classes)**
Urban-Ornamental	2000	Light (0-29% of leaves affected)

*Forest Type Group - **White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.**

Other - **Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Ash Anthracnose Fungus

SCIENTIFIC NAME Discula sp.

SPECIFIC TREE SPECIES AFFECTED Frarinus spp.

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) Understory, pole, mature, regeneration

SURVEY METHOD Point

TREATMENT (if any) Mancozeb at budbreak and twice again at 12 day intervals

TREND (Past and future) Down in 1992, variable in future

LOCATION **MAP ENCLOSED** _____ **TAPE ENCLOSED** _____

STATEWIDE X **OR:**

COUNTY _____ **TOWNSHIP** _____

_____ _____

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(If needed, continue on reverse side)

COMMENTS

ME

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
Northern Hardwoods	1000	Trace (0-5% of leaves affected)

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Ash Leaf Rust Fungus

SCIENTIFIC NAME Puccinia sparganiodes

SPECIFIC TREE SPECIES AFFECTED Fraxinus americana

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) Regeneration

SURVEY METHOD Point

TREATMENT (if any) None

TREND (Past and future) Down again in 1992, expected epidermic in future years

LOCATION **MAP ENCLOSED** X **TAPE ENCLOSED** _____

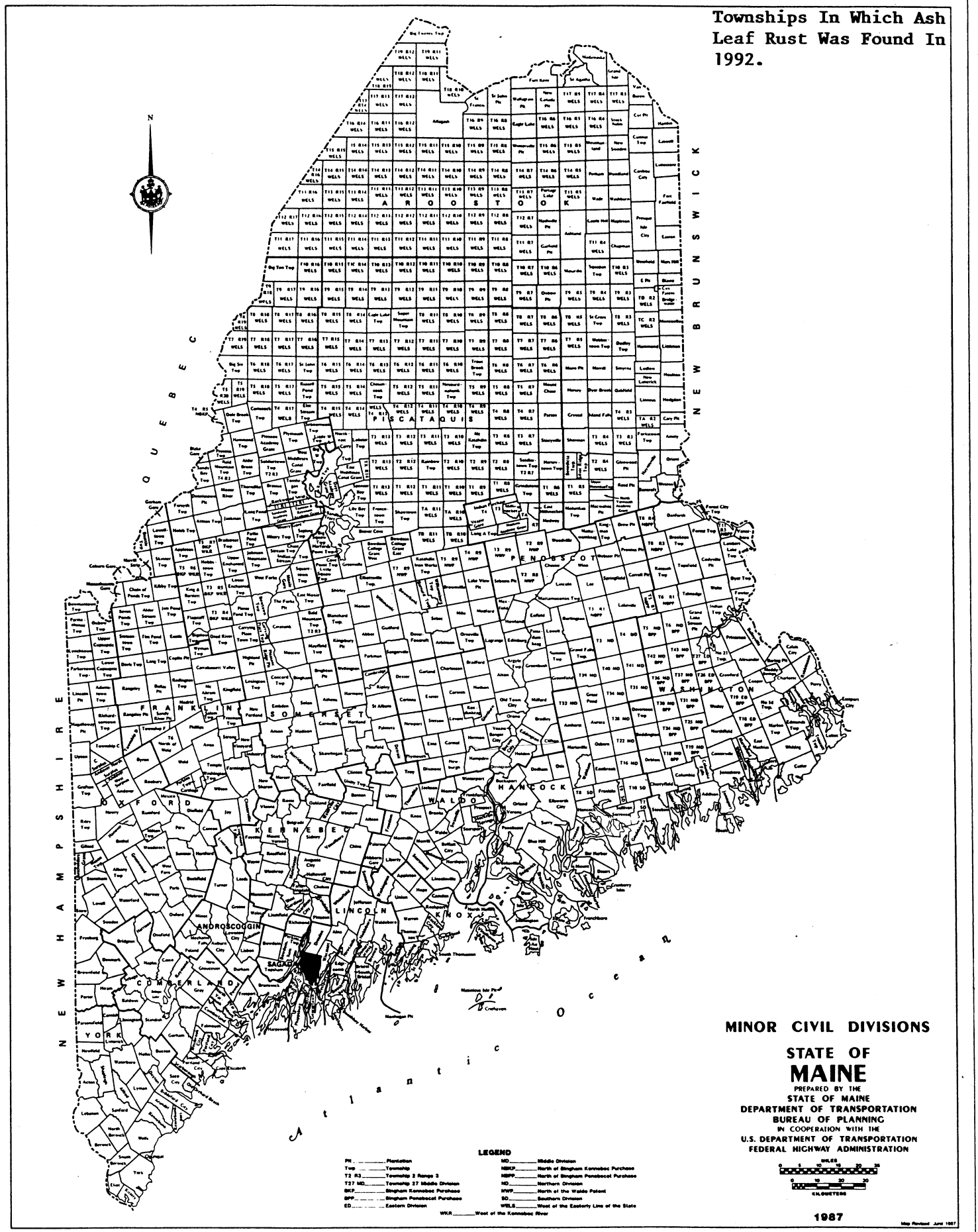
STATEWIDE _____ **OR:**

COUNTY _____ **TOWNSHIP** _____

(If needed, continue on reverse side)

COMMENTS

Townships In Which Ash Leaf Rust Was Found In 1992.



MAINE - 1992

MF

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
Northern Hardwood	3000 A	Trace (0-5% of trees affected)
	3000 A	Light (6-29% of trees affected)
	6000 A	Moderate (30-69% of trees affected)
	5000 A	Severe (70-100% of trees affected)

*Forest Type Group - **White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.**

Other - **Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Beech Bark Disease Fungus

SCIENTIFIC NAME Nectria coccinea var. faginata

SPECIFIC TREE SPECIES AFFECTED Fagus grandifolia

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) Understory, pole, mature

SURVEY METHOD Plot, point

TREATMENT (if any) Harvest poor stems and kill stumps; harvest good stems when conditions favor sprouting

TREND **(Past and future)** Stable

LOCATION **MAP ENCLOSED** _____ **TAPE ENCLOSED** _____

STATEWIDE X **OR:**

COUNTY _____ **TOWNSHIP** _____

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(If needed, continue on reverse side)

COMMENTS

VT

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
Aspen-Birch	200	scattered mortality and dieback

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Birch dieback

SCIENTIFIC NAME

SPECIFIC TREE SPECIES AFFECTED Paper Birch

AGE OF AFFECTED TREES (understory, pole, mature, regeneration)

SURVEY METHOD Aerial

TREATMENT (if any)

TREND (Past and future) Increasing. Some mortality and dieback mapped during aerial survey. None mapped in 1991 but dieback predicted due to defoliators and drought.

LOCATION **MAP ENCLOSED** _____ **TAPE ENCLOSED** X

STATEWIDE _____ **OR:**

COUNTY _____ **TOWNSHIP** _____

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(If needed, continue on reverse side)

COMMENTS

Mid to upper elevation birch the most affected.

ME

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
Northern Hardwood	13,000 A	Trace to moderate (0-69% of trees affected)

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Black Knot of Cherry Fungus

SCIENTIFIC NAME Apiosporina morbosa

SPECIFIC TREE SPECIES AFFECTED Prunus serotina

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) Understory, pole, mature

SURVEY METHOD Plot, point

TREATMENT (if any) None

TREND (Past and future) Stable

LOCATION **MAP ENCLOSED** _____ **TAPE ENCLOSED** _____

STATEWIDE X **OR:**

COUNTY _____ **TOWNSHIP** _____

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(If needed, continue on reverse side)

COMMENTS

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	**ACRES/AREA AFFECTED**	**SEVERITY/PATTERN (Define classes)**
Elm-Ash-Cottonwood	1000 A	Severe (70-100% of susceptible trees affected)

*Forest Type Group - **White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.**

Other - **Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Brown Ash Dieback

SCIENTIFIC NAME Cause unknown

SPECIFIC TREE SPECIES AFFECTED Fraxinus nigra

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) Understory, pole, mature

SURVEY METHOD Plot

TREATMENT (if any) None

TREND (Past and future) Up in past years; down in future

LOCATION **MAP ENCLOSED** _____ **TAPE ENCLOSED** _____

STATEWIDE X **OR:**

COUNTY	**TOWNSHIP**

(If needed, continue on reverse side)

COMMENTS

MFC

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	**ACRES/AREA AFFECTED**	**SEVERITY/PATTERN (Define classes)**
Northern Hardwoods	1000	Trace to moderate (0-69% of susceptible trees affected)

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Dutch Elm Disease Fungus

SCIENTIFIC NAME Ophiostoma ulmi

SPECIFIC TREE SPECIES AFFECTED Ulmus americana

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) Pole, mature

SURVEY METHOD Plot

TREATMENT (if any)

TREND (Past and future)

LOCATION **MAP ENCLOSED** _____ **TAPE ENCLOSED** _____

STATEWIDE X **OR:**

COUNTY _____ **TOWNSHIP** _____

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(If needed, continue on reverse side)

COMMENTS

ME

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	**ACRES/AREA AFFECTED**	**SEVERITY/PATTERN (Define classes)**
Spruce-Fir	2000 A	Trace (0-5% of susceptible trees affected)
	1000 A	Light (6-29% of susceptible trees affected)

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Eastern Dwarf Mistletoe

SCIENTIFIC NAME Arceuthobium pusillum

SPECIFIC TREE SPECIES AFFECTED Picea rubens, P. mariana, P. glauca

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) Understory, pole, mature, regeneration

SURVEY METHOD Plot, point

TREATMENT (if any) Cut infected trees remaining in overstory after harvest

TREND (Past and future) Stable

LOCATION **MAP ENCLOSED** _____ **TAPE ENCLOSED** _____

STATEWIDE X **OR:**

COUNTY _____ **TOWNSHIP** _____

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(If needed, continue on reverse side)

COMMENTS

MR

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
Urban-Ornamental	2 A	Moderate to severe (30-100% of leaves infected)

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Entomosporium Leaf Spot Fungus

SCIENTIFIC NAME Entomosporium mespili

SPECIFIC TREE SPECIES AFFECTED Sorbus (Pyrus) americana

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) Mature

SURVEY METHOD Point

TREATMENT (if any)

TREND (Past and future) Up in 1992, future unknown

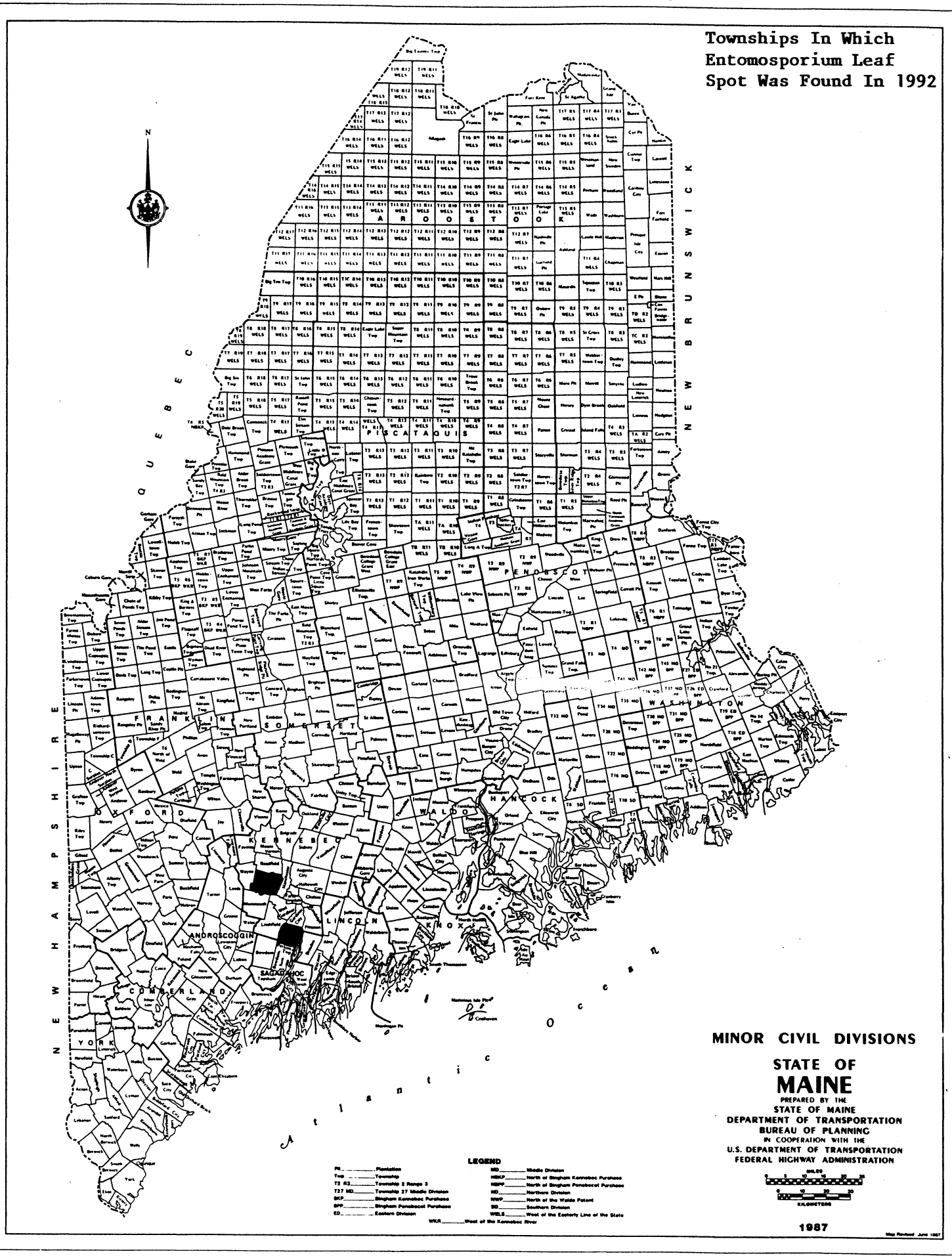
LOCATION MAP ENCLOSED X TAPE ENCLOSED _____

STATEWIDE _____ OR:

COUNTY _____ TOWNSHIP _____

(If needed, continue on reverse side)

COMMENTS


Townships In Which Entomosporium Leaf Spot Was Found In 1992
QUEBEC
NEW BRUNSWICK
NEW HAMPSHIRE
Atlantic Ocean
AROOSTOOK
PISCATAQUIS
PENOBSCOT
WASHINGTON
FRANKLIN
SOMERSET
HANCOCK
OXFORD
KENNEBEC
WALDO
LINCOLN
KNOX
ANDROSCOGGIN
SAGADAHOC
CUMBERLAND
YORK
MINOR CIVIL DIVISIONS
STATE OF
MAINE
PREPARED BY THE
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
BUREAU OF PLANNING
IN COOPERATION WITH THE
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
MILES
KILOMETERS
1987
LEGEND
Pl. Plantation
Twp. Township
T2 R3 Township 2 Range 3
T27 MD. Township 27 Middle Division
BKP. Bingham Kennebec Purchase
BPP. Bingham Penobscot Purchase
ED. Eastern Division
MD. Middle Division
NBKP North of Bingham Kennebec Purchase
NBPP North of Bingham Penobscot Purchase
ND. Northern Division
NWP North of the Wilde Patent
SD. Southern Division
WELS West of the Easterly Line of the State
WKR West of the Kennebec River

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
Spruce/Fir	6,725	Light to Heavy Infection

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT European Larch canker

SCIENTIFIC NAME Lachnellula willkommii

SPECIFIC TREE SPECIES AFFECTED Eastern & European Larch

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) All Ages

SURVEY METHOD Visual survey of designated areas of larch looking for flagging & cankers.

TREATMENT (if any) None

TREND (Past and future) Area has remained static since 1985. New infection found in previously uninfected town of Baring in 1992. No major increase is expected in the future

LOCATION **MAP ENCLOSED** XXX **TAPE ENCLOSED** _____

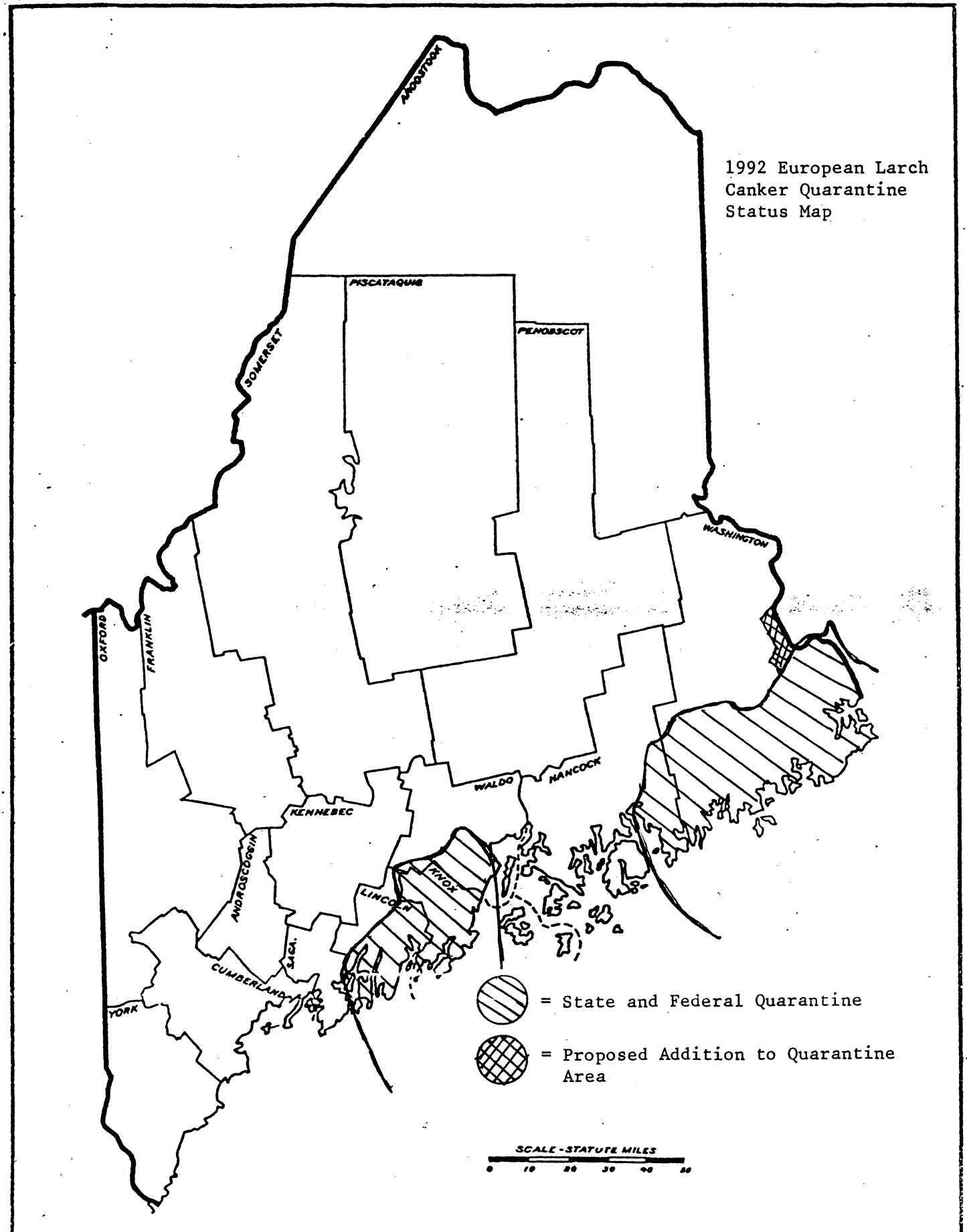
STATEWIDE _____ **OR:**

COUNTY	TOWNSHIP

(If needed, continue on reverse side)

COMMENTS State and Federal quarantine regulations are in effect and are being enforced. Quarantine area should be enlarged by two towns to maintain effective buffer zone.

MAINE


1992 European Larch Canker Quarantine Status Map
AROOSTOOK
PISCATAQUIS
PENOBSCOT
SOMERSET
WASHINGTON
OXFORD
FRANKLIN
WALDO
HANCOCK
KENNEBEC
ANDROSCOGGIN
KNOX
LINCOLN
SAG.
CUMBERLAND
YORK
= State and Federal Quarantine
= Proposed Addition to Quarantine Area
SCALE - STATUTE MILES
0 10 20 30 40 50

MF

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	**ACRES/AREA AFFECTED**	**SEVERITY/PATTERN (Define classes)**
Spruce-Fir	10,000 A	Trace to light (0-29% of needles infected)
Plantation	1,000 A	Trace to light (0-29% of needles infected)

*Forest Type Group - **White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.**

Other - **Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Fir-Fern Rust Fungus

SCIENTIFIC NAME Uredinopsis mirabilis

SPECIFIC TREE SPECIES AFFECTED Abies balsamea

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) Understory, regeneration, plantation

SURVEY METHOD Plot, point

TREATMENT (if any) Eradication of susceptible ferns within 50 feet of plantation fir grown for Christmas trees

TREND (Past and future) Down in 1992, expected variable in future

LOCATION **MAP ENCLOSED** _____ **TAPE ENCLOSED** _____

STATEWIDE X **OR:**

COUNTY _____ **TOWNSHIP** _____

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_____ _____

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(If needed, continue on reverse side)

COMMENTS

ME

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
Spruce-Fir	1000	Trace to light (0-29% of needles affected)

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Fir-Fireweed Rust Fungus

SCIENTIFIC NAME Pucciniastrum epilobii

SPECIFIC TREE SPECIES AFFECTED Abies balsamea

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) Regeneration

SURVEY METHOD Point

TREATMENT (if any) Eradicate fireweed in vicinity of susceptible fir

TREND (Past and future) Down in 1992, expected variable in future years

LOCATION **MAP ENCLOSED** _____ **TAPE ENCLOSED** _____

STATEWIDE X **OR:**

COUNTY	TOWNSHIP

(If needed, continue on reverse side)

COMMENTS

MR

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
Spruce-Fir; Northern Hardwoods	12,000 A	Trace to moderate (0-69% of buds killed)
Plantation	1,000 A	Light (6-29% of buds killed)

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Frost Injury

SCIENTIFIC NAME None

SPECIFIC TREE SPECIES AFFECTED Abies balsamea, Picea rubens, Quercus rubra, Amelanchier laevis

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) Pole, mature, regeneration

SURVEY METHOD Plot, point

TREATMENT (if any) None

TREND (Past and future) Down from last year; future unknown

LOCATION **MAP ENCLOSED** X **TAPE ENCLOSED** _____

STATEWIDE _____ **OR:**

COUNTY _____ **TOWNSHIP** _____

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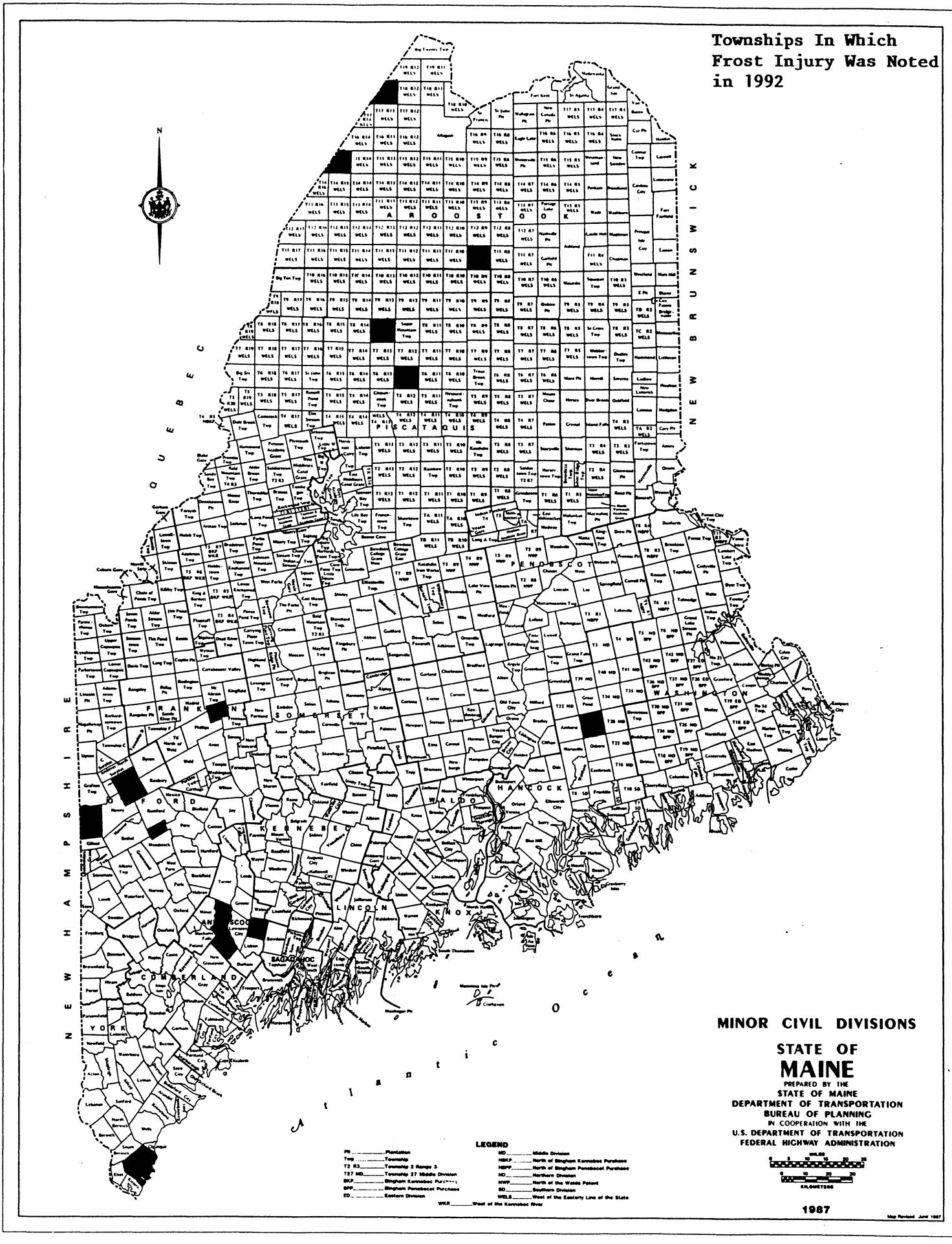
(If needed, continue on reverse side)

COMMENTS


Townships In Which Frost Injury Was Noted in 1992
QUEBEC
NEW BRUNSWICK
NEW HAMPSHIRE
Atlantic Ocean
AROOSTOOK
PISCATAQUIS
PENOBSCOT
WASHINGTON
FRANKLIN
SOMERSET
HANCOCK
WALDO
KENNEBEC
OXFORD
LINCOLN
KNOX
CUMBERLAND
YORK
SAGADAHOC
ANDROSCOGGIN
LEGEND
PR Plantation
Twp Township
T2 R3 Township 2 Range 3
T27 MD Township 27 Middle Division
BKP Bingham Kennebec Purchase
BPP Bingham Penobscot Purchase
ED Eastern Division
MD Middle Division
NBKP North of Bingham Kennebec Purchase
NBPP North of Bingham Penobscot Purchase
ND Northern Division
NWP North of the Wade Patent
SD Southern Division
WELS West of the Easterly Line of the State
WKR West of the Kennebec River
MINOR CIVIL DIVISIONS
STATE OF
MAINE
PREPARED BY THE
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
BUREAU OF PLANNING
IN COOPERATION WITH THE
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
MILES
KILOMETERS
1987
Map Revised June 1987

MR

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
Spruce-Fir	1000 A	Trace (0-5% of stems affected)

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Hail

SCIENTIFIC NAME None

SPECIFIC TREE SPECIES AFFECTED Abies balsamea

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) Regeneration

SURVEY METHOD Plot

TREATMENT (if any) None

TREND (Past and future) Down this year, variable in future years

LOCATION **MAP ENCLOSED** X **TAPE ENCLOSED** _____

STATEWIDE _____ **OR:**

COUNTY _____ **TOWNSHIP** _____

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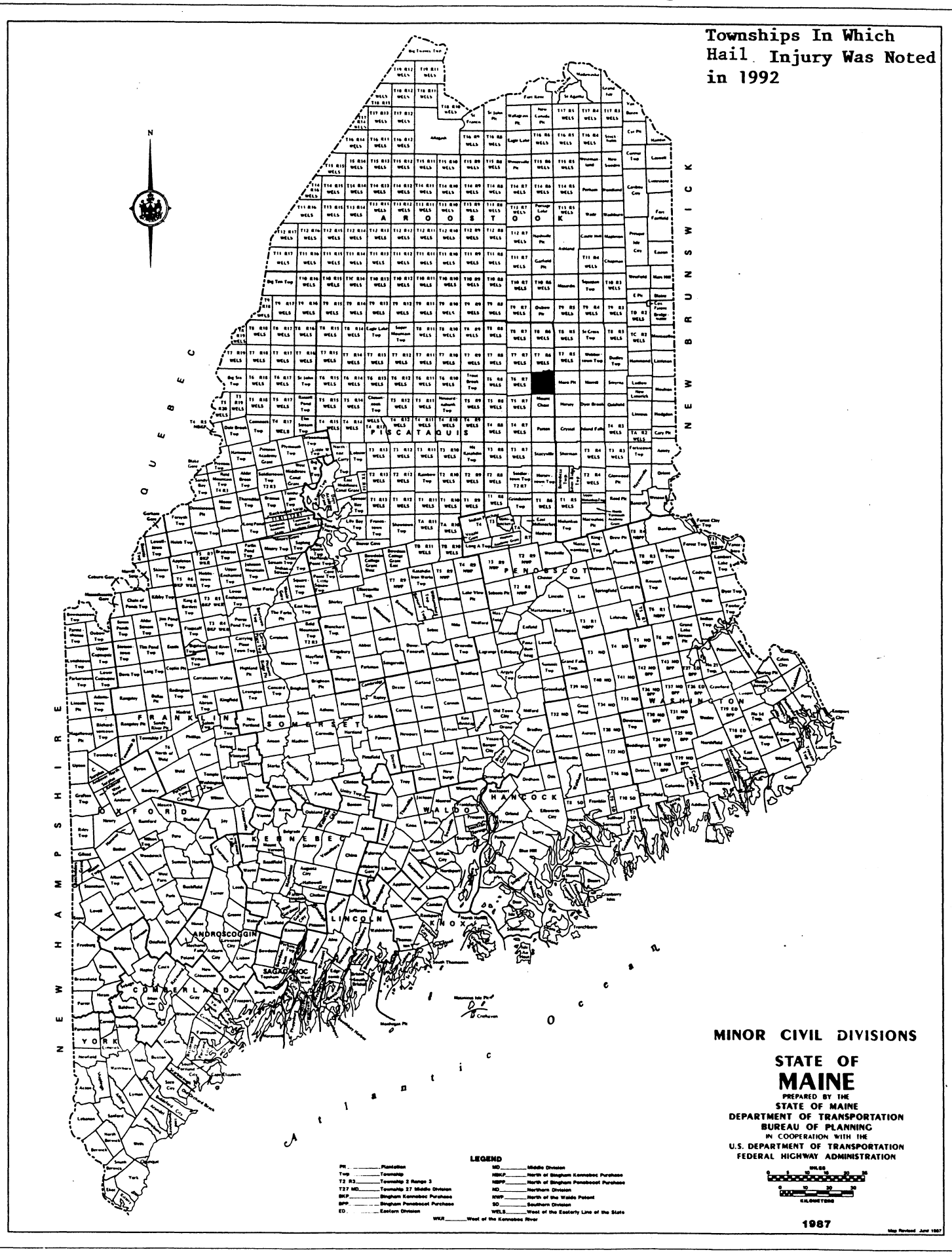
(If needed, continue on reverse side)

COMMENTS


Townships In Which Hail Injury Was Noted in 1992
QUEBEC
NEW BRUNSWICK
NEW HAMPSHIRE
Atlantic Ocean
AROOSTOOK
PISCATAQUIS
PENOBSCOT
WASHINGTON
HANCOCK
WALDO
KENNEBEC
SOMERSET
FRANKLIN
OXFORD
ANDROSCOGGIN
CUMBERLAND
YORK
LINCOLN
KNOX
SAGADAHOC
MINOR CIVIL DIVISIONS
STATE OF
MAINE
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FEDERAL HIGHWAY ADMINISTRATION
1987
LEGEND

MF

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
Northern Hardwoods	3000	Moderate (30-69% of trees affected)
Spruce-Fir	2000	Light to moderate (6-69% of trees affected)

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Herbicides

SCIENTIFIC NAME Simazine; other

SPECIFIC TREE SPECIES AFFECTED Abies balsamea; Betula papyrifera, Betula lutea

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) Regeneration, pole, mature

SURVEY METHOD Plot, point

TREATMENT (if any)

TREND (Past and future) Down

LOCATION **MAP ENCLOSED** X **TAPE ENCLOSED** _____

STATEWIDE _____ **OR:**

COUNTY _____ **TOWNSHIP** _____

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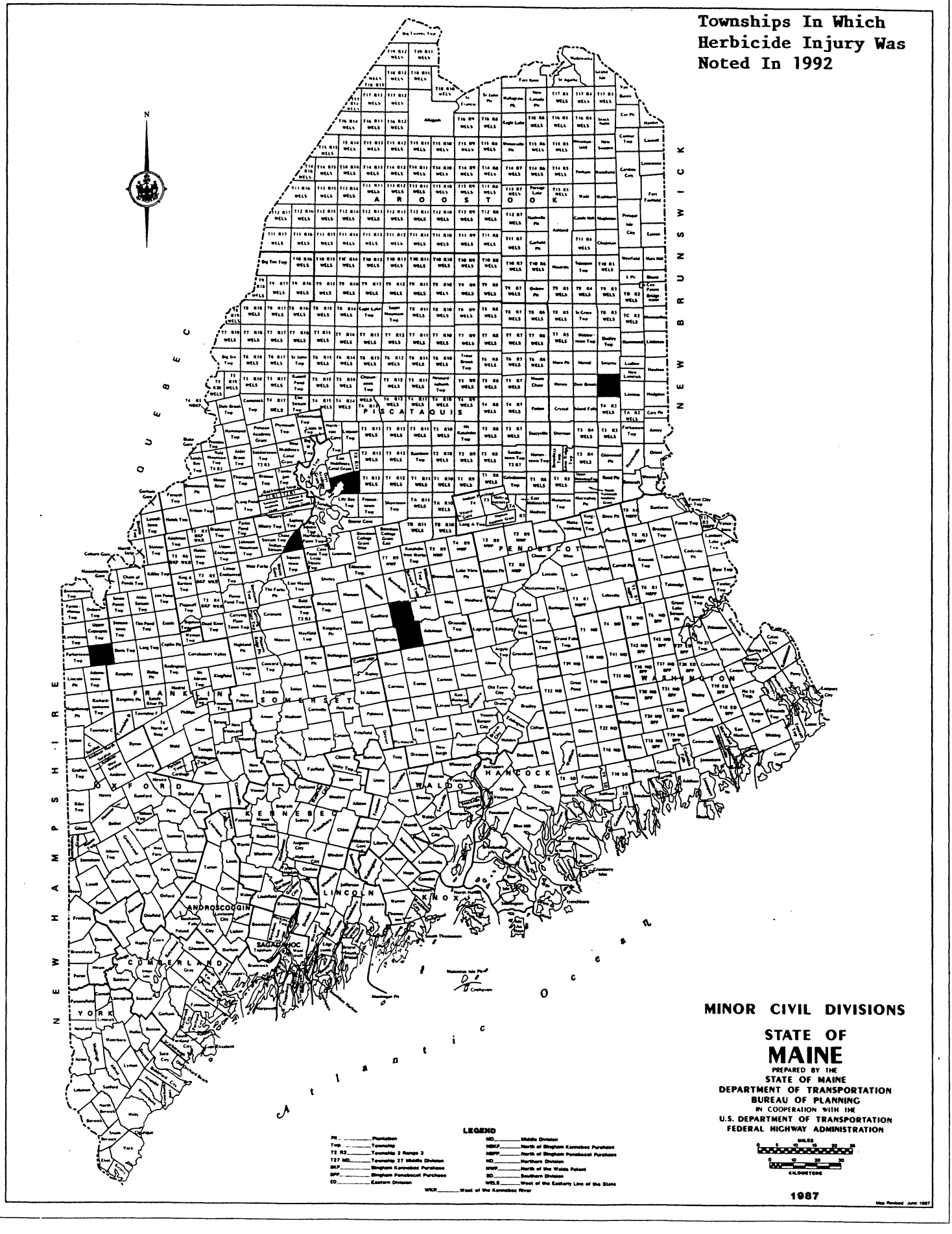
(If needed, continue on reverse side)

COMMENTS


Townships In Which Herbicide Injury Was Noted In 1992
N
QUEBEC
NEW BRUNSWICK
NEW HAMPSHIRE
Atlantic Ocean
AROOSTOOK
PISCATAQUIS
PENOBSCOT
WASHINGTON
FRANKLIN
SOMERSET
HANCOCK
OXFORD
KENNEBEC
WALDO
ANDROSCOGGIN
LINCOLN
KNOX
SAGADAHOC
CUMBERLAND
YORK
LEGEND
PR.....Plantation
Twp.....Township
T3 R3.....Township 3 Range 3
T27 MD.....Township 27 Middle Division
BKP.....Bingham Kennebec Purchase
BPP.....Bingham Penobscot Purchase
ED.....Eastern Division
MD.....Middle Division
NBKP.....North of Bingham Kennebec Purchase
NBPP.....North of Bingham Penobscot Purchase
ND.....Northern Division
NWP.....North of the Wilde Patent
SD.....Southern Division
WELS.....West of the Easterly Line of the State
WLR.....West of the Kennebec River
MINOR CIVIL DIVISIONS
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MILES
KILOMETERS
1987

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
All	17,000,000	Trace to moderate (0-69% of stems affected)

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Hypoxylon Canker Fungi

SCIENTIFIC NAME Hypoxylon mammatum, pruinatum

SPECIFIC TREE SPECIES AFFECTED Populus tremuloides

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) Understory, pole, mature, regeneration

SURVEY METHOD Point, plot

TREATMENT (if any)

TREND (Past and future) Stable

LOCATION **MAP ENCLOSED** _____ **TAPE ENCLOSED** _____

STATEWIDE X **OR:**

COUNTY _____ **TOWNSHIP** _____

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(If needed, continue on reverse side)

COMMENTS

ME

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
Water Erosion Damage	10 A	Severe (70-100% of susceptible trees affected)

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Lake wave action due to artificially high water levels

SCIENTIFIC NAME Beach Erosion

SPECIFIC TREE SPECIES AFFECTED Pinus spp., Acer spp.

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) Mature

SURVEY METHOD Point

TREATMENT (if any)

TREND (Past and future)

LOCATION **MAP ENCLOSED** X **TAPE ENCLOSED** _____

STATEWIDE _____ **OR:**

COUNTY _____ **TOWNSHIP** _____

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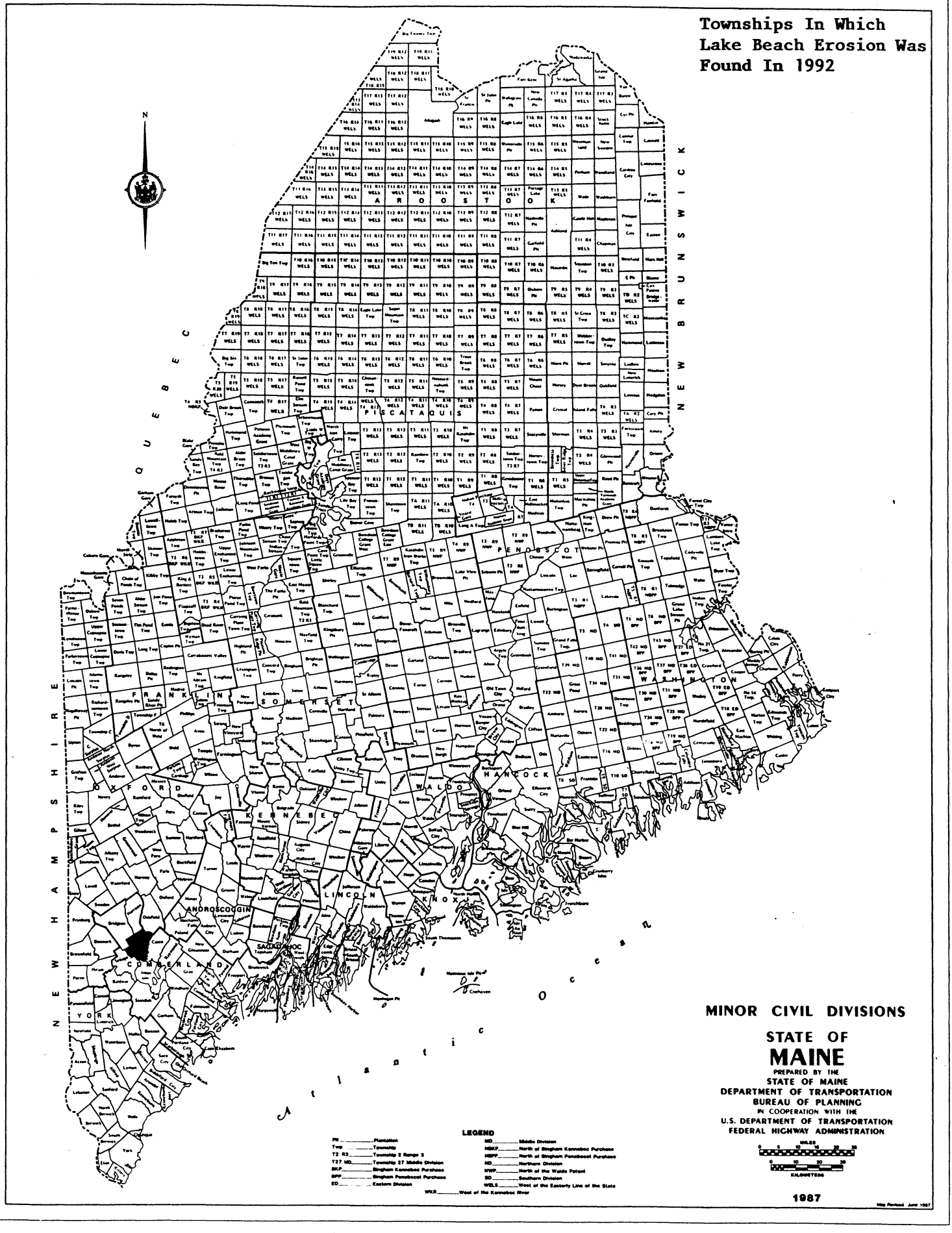
(If needed, continue on reverse side)

COMMENTS


Townships In Which
Lake Beach Erosion Was
Found In 1992
N
QUEBEC
NEW BRUNSWICK
NEW HAMPSHIRE
Atlantic Ocean
AROOSTOOK
PISCATAQUIS
PENOBSCOT
WASHINGTON
FRANKLIN
SOMERSET
HANCOCK
OXFORD
KENNEBEC
WALDO
LINCOLN
KNOX
ANDROSCOGGIN
SAGADAHOC
CUMBERLAND
YORK
LEGEND
PN.....Plantation
Twp.....Township
T2 R3.....Township 2 Range 3
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MINOR CIVIL DIVISIONS
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MK

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
Spruce-Fir	185,000	Trace to moderate (0-69% of needles affected

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Lirula Needle Cast Fungus

SCIENTIFIC NAME Lirula sp.

SPECIFIC TREE SPECIES AFFECTED

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) Understory, regeneration

SURVEY METHOD Point, plot

TREATMENT (if any)

TREND (Past and future) Up in 1992, the result of 1991 infection

LOCATION MAP ENCLOSED _____ TAPE ENCLOSED _____

STATEWIDE X OR:

COUNTY _____ TOWNSHIP _____

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(If needed, continue on reverse side)

COMMENTS

MR

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
Northern Hardwood	1000	Light (6-29% of leaves affected)

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Maple Tar Spot Fungus

SCIENTIFIC NAME Rhytisma acerinum

SPECIFIC TREE SPECIES AFFECTED Acer rubrum

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) Mature

SURVEY METHOD Point

TREATMENT (if any) None

TREND (Past and future) Down in 1992

LOCATION MAP ENCLOSED _____ TAPE ENCLOSED _____

STATEWIDE X OR:

COUNTY _____ TOWNSHIP _____

(If needed, continue on reverse side)

COMMENTS

MG

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
Northern Hardwood	5000	Trace (0-5% of trees affected)
	1000	Moderate (30-69% of trees affected)

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Nectria Canker Fungus

SCIENTIFIC NAME Nectria galligena

SPECIFIC TREE SPECIES AFFECTED Acer spp.

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) Pole, mature

SURVEY METHOD Plot

TREATMENT (if any)

TREND (Past and future) Stable

LOCATION **MAP ENCLOSED** _____ **TAPE ENCLOSED** _____

STATEWIDE X **OR:**

COUNTY _____ **TOWNSHIP** _____

(If needed, continue on reverse side)

COMMENTS

MB

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
Plantation	20 A	Trace to light (0-5% of trees affected)
Plantation	5 A	Severe (70-100% of trees affected

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Nutrient Deficiency

SCIENTIFIC NAME Manganese, nitrogen, potassium, phosphorus

SPECIFIC TREE SPECIES AFFECTED Abies balsamea

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) Regeneration

SURVEY METHOD Point

TREATMENT (if any) Manganese chelates, balanced fertilizer

TREND (Past and future) Manganese deficiency up
NPK deficiencies down

LOCATION **MAP ENCLOSED** X **TAPE ENCLOSED** _____

STATEWIDE _____ **OR:**

COUNTY _____ **TOWNSHIP** _____

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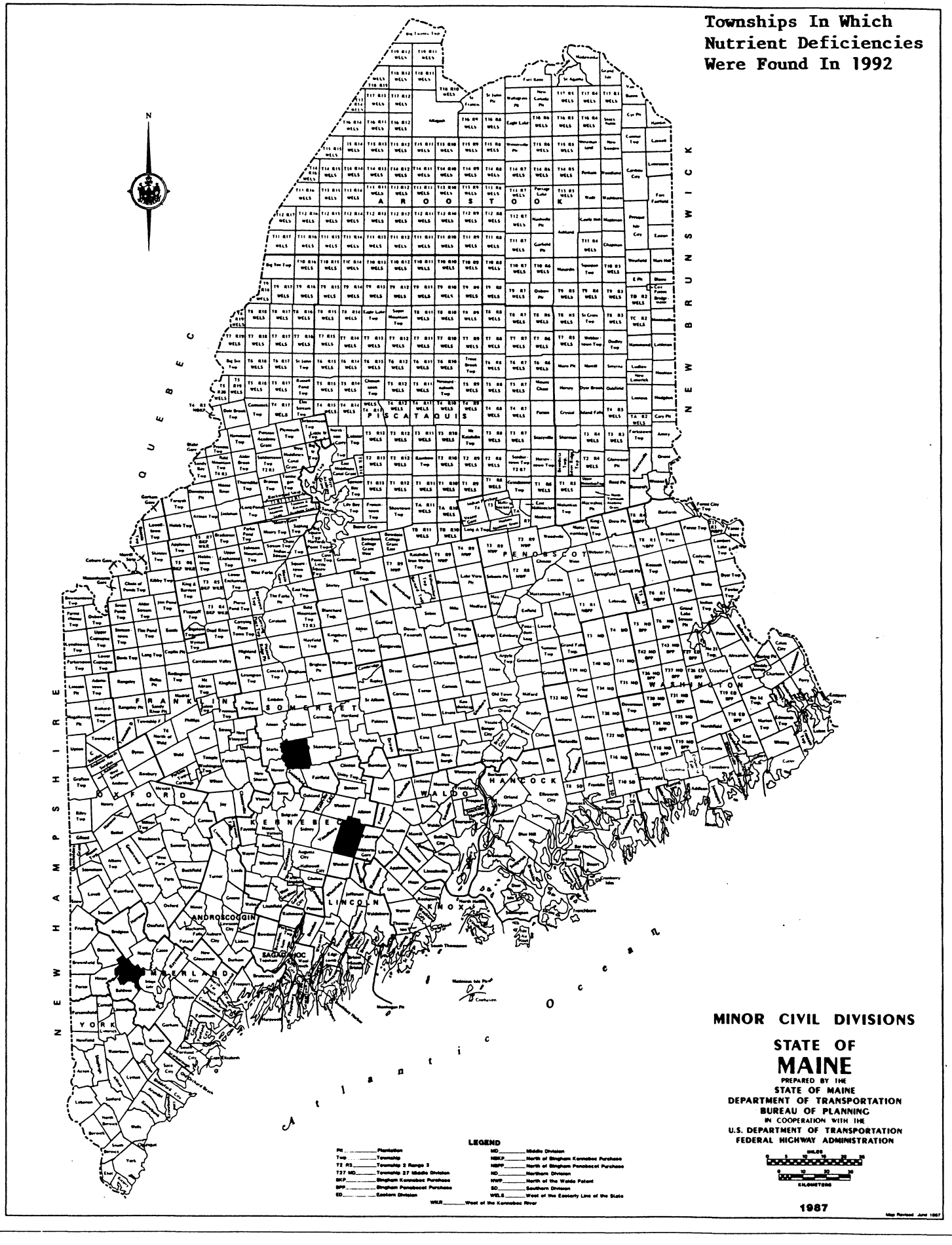
(If needed, continue on reverse side)

COMMENTS


Townships In Which
Nutrient Deficiencies
Were Found In 1992
N
QUEBEC
NEW BRUNSWICK
NEW HAMPSHIRE
Atlantic Ocean
AROOSTOOK
PISCATAQUIS
PENOBSCOT
WASHINGTON
FRANKLIN
SOMERSET
HANCOCK
WALDO
OXFORD
KENNEBEC
LINCOLN
KNOX
ANDROSCOGGIN
SAGADAHOC
CUMBERLAND
YORK
LEGEND
PN Plantation
Twp Township
T2 R3 Township 2 Range 3
T27 MD Township 27 Middle Division
BKP Bingham Kennebec Purchase
BPP Bingham Penobscot Purchase
ED Eastern Division
MD Middle Division
NBKP North of Bingham Kennebec Purchase
NBPP North of Bingham Penobscot Purchase
ND Northern Division
NWP North of the Wiggle Patent
SD Southern Division
WELS West of the Easterly Line of the State
WKR West of the Kennebec River
MINOR CIVIL DIVISIONS
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FEDERAL HIGHWAY ADMINISTRATION
MILES
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1987
Map Revised June 1987

ME

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
Urban-Ornamental	20 A	Severe (70-100% of susceptible plants affected)

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Ocean Flooding*

SCIENTIFIC NAME Sodium chloride

SPECIFIC TREE SPECIES AFFECTED Pinus spp.

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) Pole, mature, regeneration

SURVEY METHOD Point

TREATMENT (if any)

TREND (Past and future) Uncertain

LOCATION **MAP ENCLOSED** X **TAPE ENCLOSED** _____

STATEWIDE _____ **OR:**

COUNTY _____ **TOWNSHIP** _____

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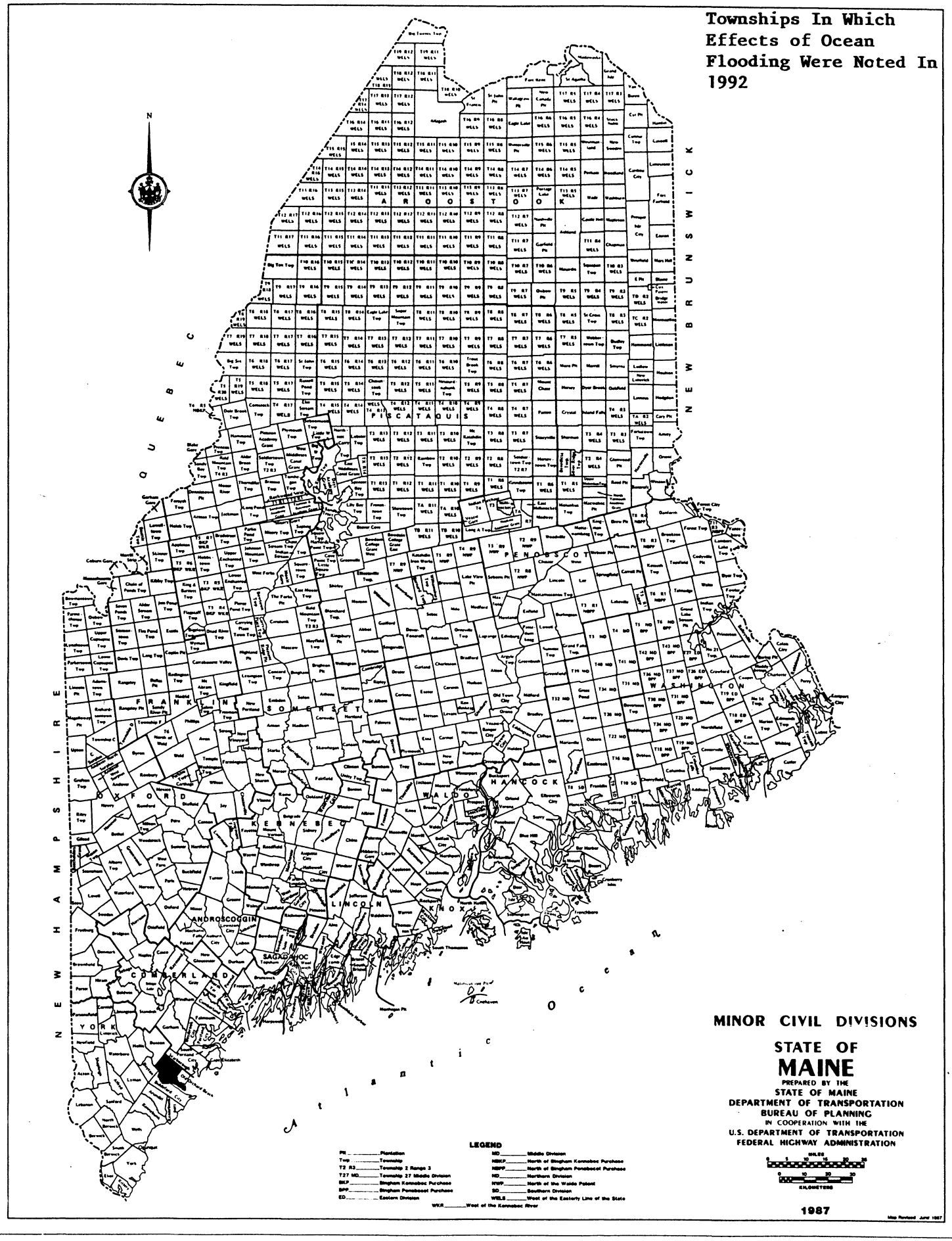
(If needed, continue on reverse side)

COMMENTS *This was the result of ocean flooding of residential areas during Hurricane Bob in 1991.


Townships In Which Effects of Ocean Flooding Were Noted In 1992
N
QUEBEC
NEW BRUNSWICK
NEW HAMPSHIRE
Atlantic Ocean
AROOSTOOK
PISCATAQUIS
PENOBSCOT
WASHINGTON
HANCOCK
WALDO
KENNEBEC
SOMERSET
FRANKLIN
OXFORD
ANDROSCOGGIN
SAGADAHOC
LINCOLN
KNOX
CUMBERLAND
YORK
LEGEND
PN _____ Plantation
Twp _____ Township
T2 R3 _____ Township 2 Range 3
T27 MD _____ Township 27 Middle Division
BKP _____ Bingham Kennebec Purchase
BPP _____ Bingham Penobscot Purchase
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MD _____ Middle Division
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NBPP _____ North of Bingham Penobscot Purchase
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WELS _____ West of the Easterly Line of the State
WKR _____ West of the Kennebec River
MINOR CIVIL DIVISIONS
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MILES
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1987
Map Revised June 1987

MR

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
Northern Hardwood	1000	Trace (0-5% of trees affected)
Spruce-Fir	1000	Trace (0-5% of trees affected)
Aspen-Birch	1000	Light (6-29% of trees affected)

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Porcupines

SCIENTIFIC NAME Erethizon dorsatum

SPECIFIC TREE SPECIES AFFECTED Abies balsamea, Pinus resinosa, Acer saccharum, Larix laricina, Tsuga canadensis

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) Pole, mature, regeneration

SURVEY METHOD Plot, point

TREATMENT (if any) Shotgun

TREND (Past and future) Up in 1991, 1992; stable to variable in future

LOCATION **MAP ENCLOSED** _____ **TAPE ENCLOSED** _____

STATEWIDE X **OR:**

COUNTY _____ **TOWNSHIP** _____

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(If needed, continue on reverse side)

COMMENTS

ME

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
Urban-Ornamental	1000	Trace to light (0-29% of needles affected)
Nursery	40	Trace to light (0-29% of needles affected)

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Rhizosphaera Needle Cast Fungus

SCIENTIFIC NAME Rhizosphaera kalkhoffii

SPECIFIC TREE SPECIES AFFECTED Picea pungens, Picea glauca

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) Regeneration, ornamental

SURVEY METHOD Point

TREATMENT (if any) Chlorothalonil in mid June and early July

TREND (Past and future) Stable

LOCATION **MAP ENCLOSED** _____ **TAPE ENCLOSED** _____

STATEWIDE X **OR:**

COUNTY	TOWNSHIP

(If needed, continue on reverse side)

COMMENTS

ME

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
Aspen Birch	1000	Trace (0-5% of stems affected)
Northern Hardwoods	1000	Moderate (30-69% of stems affected)

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Sapsuckers

SCIENTIFIC NAME Sphyrapicus varius varius

SPECIFIC TREE SPECIES AFFECTED Betula papyrifera

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) Pole, mature

SURVEY METHOD Plot

TREATMENT (if any)

TREND (Past and future) Stable

LOCATION **MAP ENCLOSED** _____ **TAPE ENCLOSED** _____

STATEWIDE X **OR:**

COUNTY _____ **TOWNSHIP** _____

_____ _____

_____ _____

_____ _____

_____ _____

(If needed, continue on reverse side)

COMMENTS

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
White-Red Pine	One	Moderate (30-60% of trees affected)

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Scleroderris Canker Fungus

SCIENTIFIC NAME Ascocalyx abietina

SPECIFIC TREE SPECIES AFFECTED Pinus resinosa, Pinus strobus

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) Understory, regeneration

SURVEY METHOD Point

TREATMENT (if any) None

TREND (Past and future) Down

LOCATION **MAP ENCLOSED** X **TAPE ENCLOSED** _____

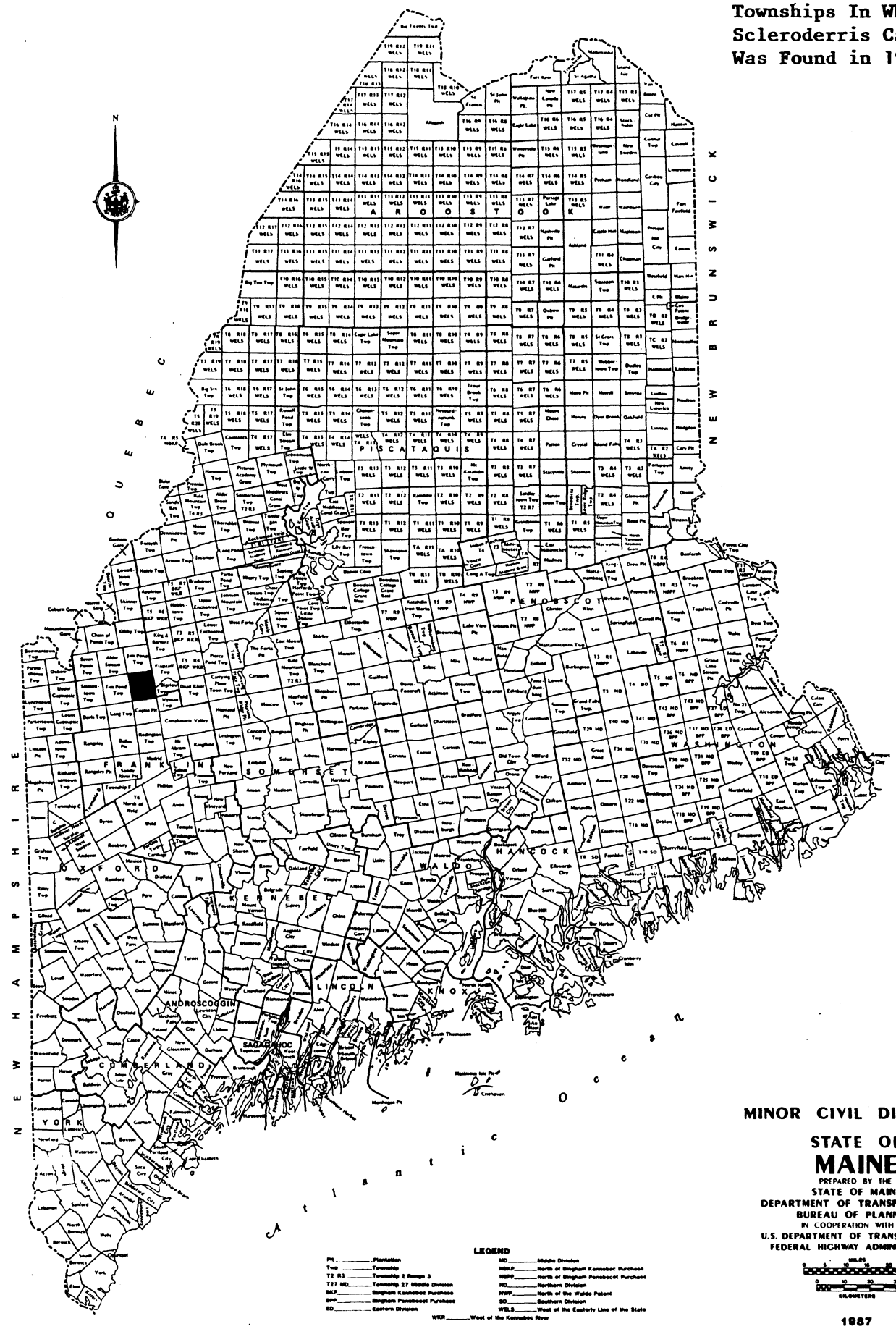
STATEWIDE _____ **OR:**

COUNTY	TOWNSHIP

(If needed, continue on reverse side)

COMMENTS

Townships In Which Scleroderris Canker Was Found in 1992



MINOR CIVIL DIVISIONS

STATE OF MAINE

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U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

0 5 10 15 20 25
0 10 20 30
KILOMETERS

1987

LEGEND

PN _____ Plantation
Twp _____ Township
T2 R3 _____ Township 2 Range 3
T27 MD _____ Township 27 Middle Division
BKP _____ Bingham Kennebec Purchase
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WKR _____ West of the Kennebec River

ME

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
White-Red Pine	2000	Moderate (30-69% of shoots affected)
Nursery	40	Light (6-29% of seedlings affected)
Plantation	1000	Trace to severe (0-100% of trees affected)

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Sirococcus Shoot Blight Fungus

SCIENTIFIC NAME Sirococcus conigenus

SPECIFIC TREE SPECIES AFFECTED Pinus resinosa; Picea pungens

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) Understory, pole, mature regeneration

SURVEY METHOD Point, plot

TREATMENT (if any) Chlorothalonil in May and June

TREND (Past and future) Increasing in older red pine plantations

LOCATION **MAP ENCLOSED** _____ **TAPE ENCLOSED** _____

STATEWIDE X **OR:**

COUNTY _____ **TOWNSHIP** _____

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(If needed, continue on reverse side)

COMMENTS

MF

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
Spruce-Fir	1000 A	Trace to moderate (0-69% of needles affected
Spruce-Fir	1000 A	Severe (70-100% of needles affected)

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Spruce Needle Rust Fungus

SCIENTIFIC NAME Chrysomyxa spp.

SPECIFIC TREE SPECIES AFFECTED Picea rubens

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) Mature, regeneration

SURVEY METHOD Point

TREATMENT (if any) None

TREND (Past and future) Up in 1992

LOCATION **MAP ENCLOSED** X **TAPE ENCLOSED** _____

STATEWIDE _____ **OR:**

COUNTY _____ **TOWNSHIP** _____

_____ _____

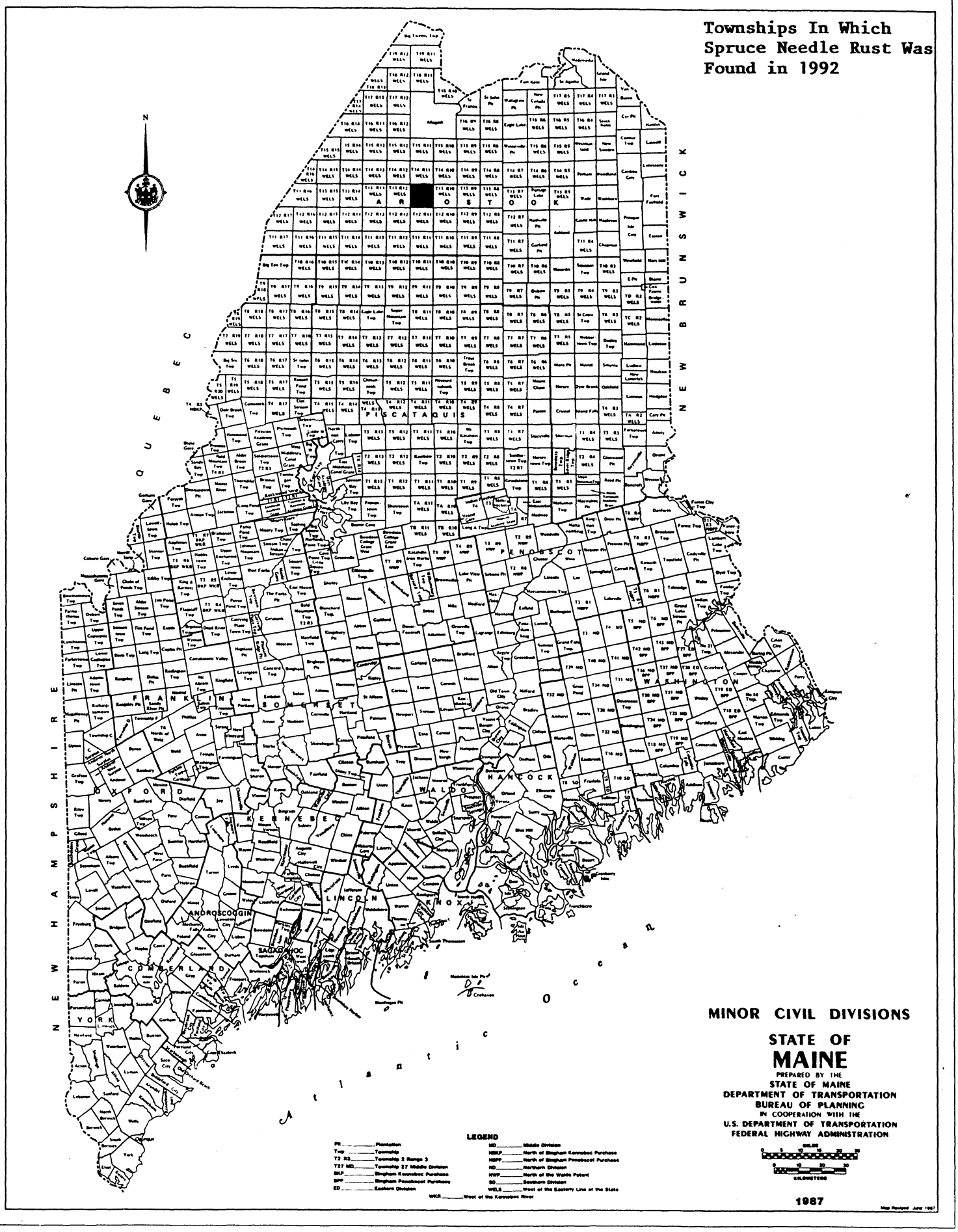
_____ _____

_____ _____

_____ _____

(If needed, continue on reverse side)

COMMENTS


Townships In Which Spruce Needle Rust Was Found in 1992
N
QUEBEC
NEW BRUNSWICK
NEW HAMPSHIRE
PISCATAQUIS
PENOBSCOT
WASHINGTON
FRANKLIN
SOMERSET
HANCOCK
OXFORD
WALDO
KENNEBEC
LINCOLN
KNOX
ANDROSCOGGIN
SAGADAHOC
CUMBERLAND
YORK
Atlantic Ocean
LEGEND
PR _____ Plantation
Twp _____ Township
T2 R3 _____ Township 2 Range 3
T27 MD _____ Township 27 Middle Division
BKP _____ Bingham Kennebec Purchase
BPP _____ Bingham Penobscot Purchase
ED _____ Eastern Division
MD _____ Middle Division
NBKP _____ North of Bingham Kennebec Purchase
NBPP _____ North of Bingham Penobscot Purchase
ND _____ Northern Division
NWP _____ North of the Wadis Patent
SD _____ Southern Division
WELS _____ West of the Easterly Line of the State
WKR _____ West of the Kennebec River
MINOR CIVIL DIVISIONS
STATE OF
MAINE
PREPARED BY THE
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
BUREAU OF PLANNING
IN COOPERATION WITH THE
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
KILOMETERS
1987

ME

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
Spruce-Fir	7,000,000	Low density scattered individual fir trees <2%

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak-Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT - Stillwell's syndrome "Red Fir"

SCIENTIFIC NAME None (likely Armillaria spp.)

SPECIFIC TREE SPECIES AFFECTED Balsam Fir

AGE OF AFFECTED TREES (understory, pole, mature, regeneration)
Mature trees are usually affected but, pole sized trees can be killed.

SURVEY METHOD Aerial survey was used to detect and delineate this condition. Areas were flown at 1,200 feet above the ground with a Cessna 185. A sample of the mapped areas were ground checked to confirm the causal agent.

TREATMENT (if any)
None

TREND (past and future)
The occurrence of this condition increased in 1992 after several years of decline. The primary stress factor associated with Stillwell's in Maine is probably stress from the most recent spruce budworm outbreak but the 1992 increase seems to be associated with a dry 1991 and a wet 1992. Stress factors have increased the success of attack by Armillaria spp.. Concentrations of red fir on the coast occurred near areas most recently damaged by budworm. In northern Maine more red fir were seen in the normal defuse pattern observed through the 80s.

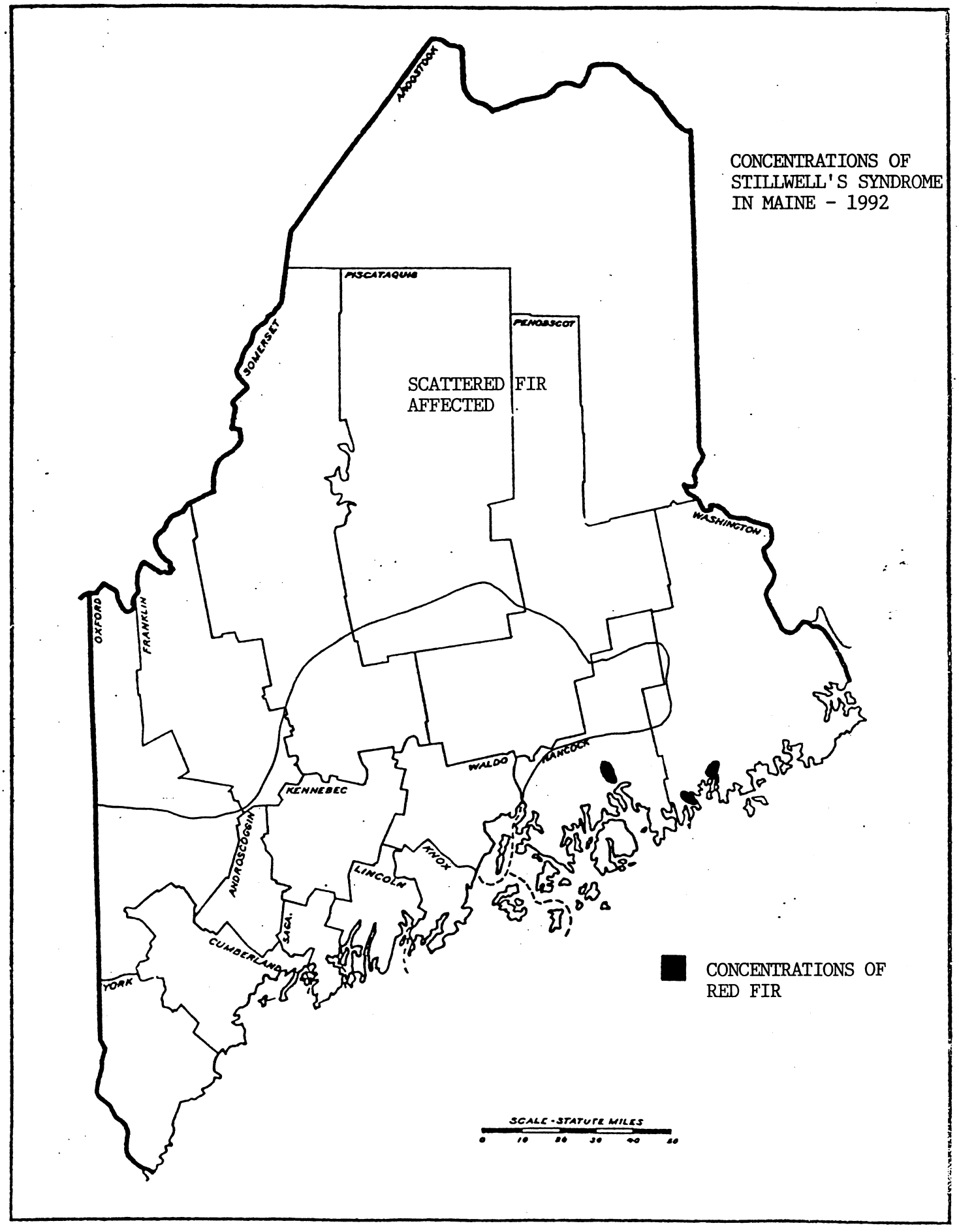
LOCATION MAP ENCLOSED X TAPE ENCLOSED ____

STATEWIDE ____ OR: Entire Spruce-Fir area

COUNTY TOWNSHIP

1992

MAINE


CONCENTRATIONS OF STILLWELL'S SYNDROME IN MAINE - 1992
AROOSTOOK
PISCATAQUIS
PENOBSCOT
SOMERSET
SCATTERED FIR AFFECTED
WASHINGTON
OXFORD
FRANKLIN
WALDO
HANCOCK
KENNEBEC
ANDROSCOGGIN
KNOX
LINCOLN
SAG.
CUMBERLAND
YORK
CONCENTRATIONS OF RED FIR
SCALE - STATUTE MILES
0 10 20 30 40 50

ME

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN
Aspen/Birch & North. Hdwds.	83,700 Acre	Past Damage

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT White Birch Decline

SCIENTIFIC NAME Unknown

SPECIFIC TREE SPECIES AFFECTED Betula papyrifera

AGE OF AFFECTED TREES (understory, pole, mature, regeneration)
Mature

SURVEY METHOD Prism plots 10 BAF

TREATMENT (if any) NONE

TREND (Past and Future) Birch health is improving.

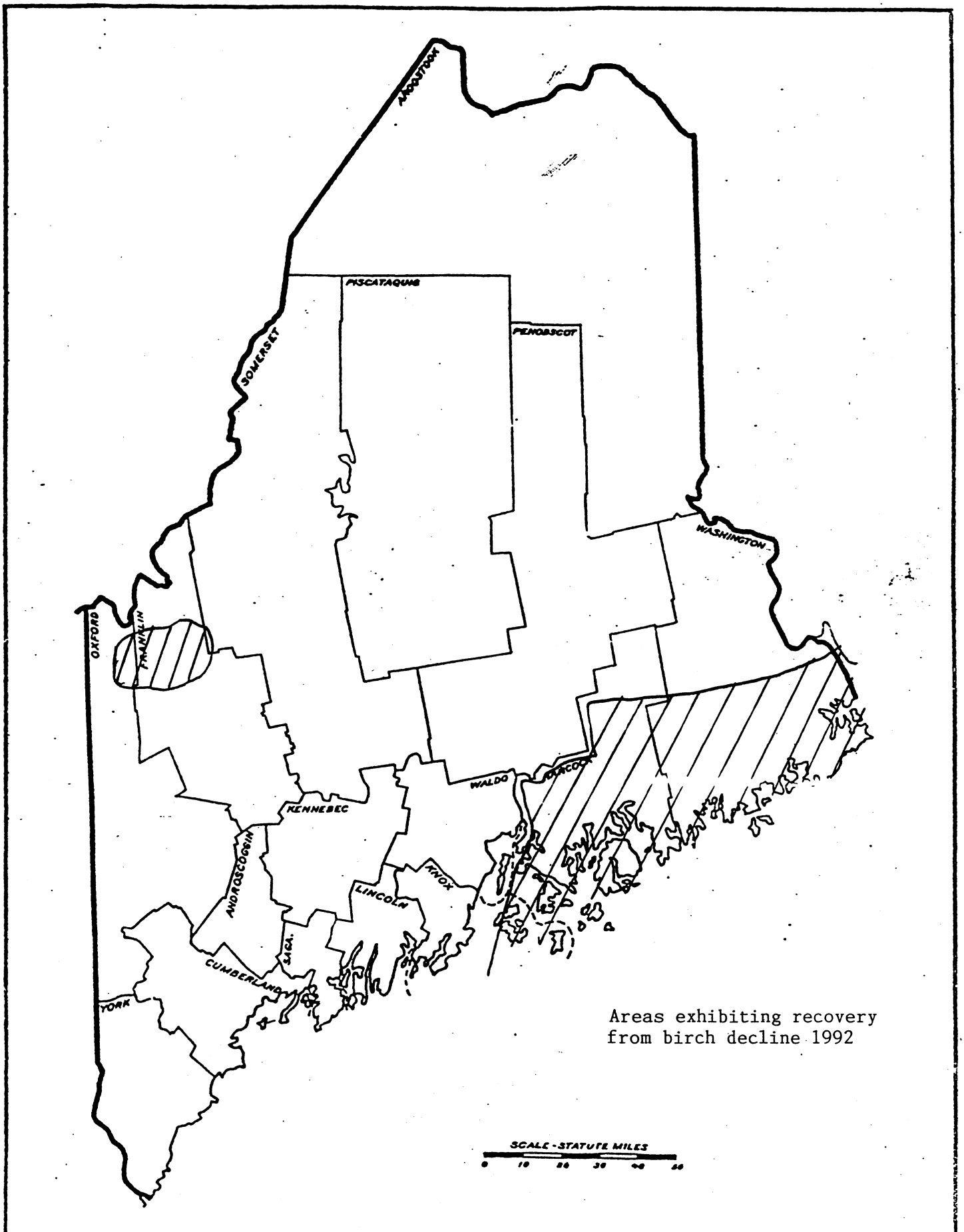
LOCATION MAP ENCLOSED XX TAPE ENCLOSED _____
STATEWIDE _____ OR:
COUNTY _____ TOWNSHIP _____

(If needed, continue on reverse side)

COMMENTS Tree health is improving. Decline though to be result of a past birch case bearer infestation in combination with other undetermined agents.

1992

MAINE


AROOSTOOK
PISCATAQUIS
PENOBSCOT
SOMERSET
WASHINGTON
OXFORD
FRANKLIN
WALDO
KENNEBEC
ANDROSCOGGIN
KNOX
LINCOLN
SAGA.
CUMBERLAND
YORK
Areas exhibiting recovery from birch decline 1992
SCALE - STATUTE MILES

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
White-Red Pine	1,031,000	Trace to moderate (0-69% of stems affected)

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT White Pine Blister Rust Fungus

SCIENTIFIC NAME Cronartium ribicola

SPECIFIC TREE SPECIES AFFECTED Pinus strobus

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) Understory, pole, mature, regeneration

SURVEY METHOD Ground mapping from aerial photos as described in USFS workbook. 53,715 acres of regeneration and pole sized white pine were surveyed 14,929 acres of white pine qualified for scouting for Ribes plants

TREATMENT (if any) Out of the 14,929 acres which qualified for scouting, 8,977 acres were worked (Ribes eradicated. This involved 820 man hours. Eradication of Ribes was accomplished with one or both of the following methods:

Herbicide Tordon 101 RTU (144 oz. active ingred. with water enough to equal 18 gals. of spray) - Handpulling in sensitive areas. A total of 3,200 plants were eradicated.

TREND (Past and future) Stable

LOCATION **MAP ENCLOSED** _____ **TAPE ENCLOSED** _____

STATEWIDE _____ and areas which qualified for working.

COUNTY	* **TOWNSHIP**
Cumberland	Falmouth (x), Harrison (x), Naples (!) Sebago (!), Westbrook (o)
Oxford	Norway (!), Otisfield (!), Oxford (!)
York	Alfred (o), Biddeford (!), Hollis (o), Saco (!) So. Berwick (x), York (o)

(If needed, continue on reverse side)

COMMENTS * ! = Completed-7 towns
x = Partially worked-3 towns
o = Not worked-4 towns

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
	7000 A trace	(0-5% of trees damaged or wind-
Northern Hardwoods	4000 A light	(6-29% " " " "thrown)
	1000 A trace	(0-5% " " " "
Aspen-Birch	1000 A light	(6-29% " " " "
	1000 A trace	(0-5% " " " "
	5000 A light	(6-29% " " " "
Spruce-Fir	3000 A moderate	(30-69% " " " "
White-Red Pine	2000 A light	(6-29% " " " "

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Wind

SCIENTIFIC NAME

SPECIFIC TREE SPECIES AFFECTED All

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) Pole, mature

SURVEY METHOD Point, plot

TREATMENT (if any)

TREND (Past and future) Up, especially as the result of Hurricane Bob

LOCATION **MAP ENCLOSED** _____ **TAPE ENCLOSED** _____

STATEWIDE X **OR:**

COUNTY _____ **TOWNSHIP** _____

_____ _____

_____ _____

_____ _____

_____ _____

(If needed, continue on reverse side)

COMMENTS

ME

MAINE - 1992

FOREST HEALTH WORKSHEET

AFFECTED FOREST TYPES*/OTHER**	ACRES/AREA AFFECTED	SEVERITY/PATTERN (Define classes)
Spruce-Fir	4000	Trace to light (0-5% of trees affected)

*Forest Type Group - White-Red-Jack Pine, Spruce-Fir, Hard Pine, Oak-Pine, Oak Hickory, Oak-Gum-Cypress, Elm-Ash-Cottonwood, Northern Hardwood, Aspen-Birch.

**Other - Urban-Ornamental, Nursery, Plantation.

DAMAGE

DAMAGE CAUSING AGENT Yellow Witches' Broom Fungus

SCIENTIFIC NAME Melampsorella caryophyllacearum

SPECIFIC TREE SPECIES AFFECTED Abies balsamea

AGE OF AFFECTED TREES (understory, pole, mature, regeneration) Mature, plantation

SURVEY METHOD Point, plot

TREATMENT (if any) Clip and remove

TREND (Past and future) Stable

LOCATION MAP ENCLOSED _____ TAPE ENCLOSED _____

STATEWIDE X OR:

COUNTY _____ TOWNSHIP _____

(If needed, continue on reverse side)

COMMENTS